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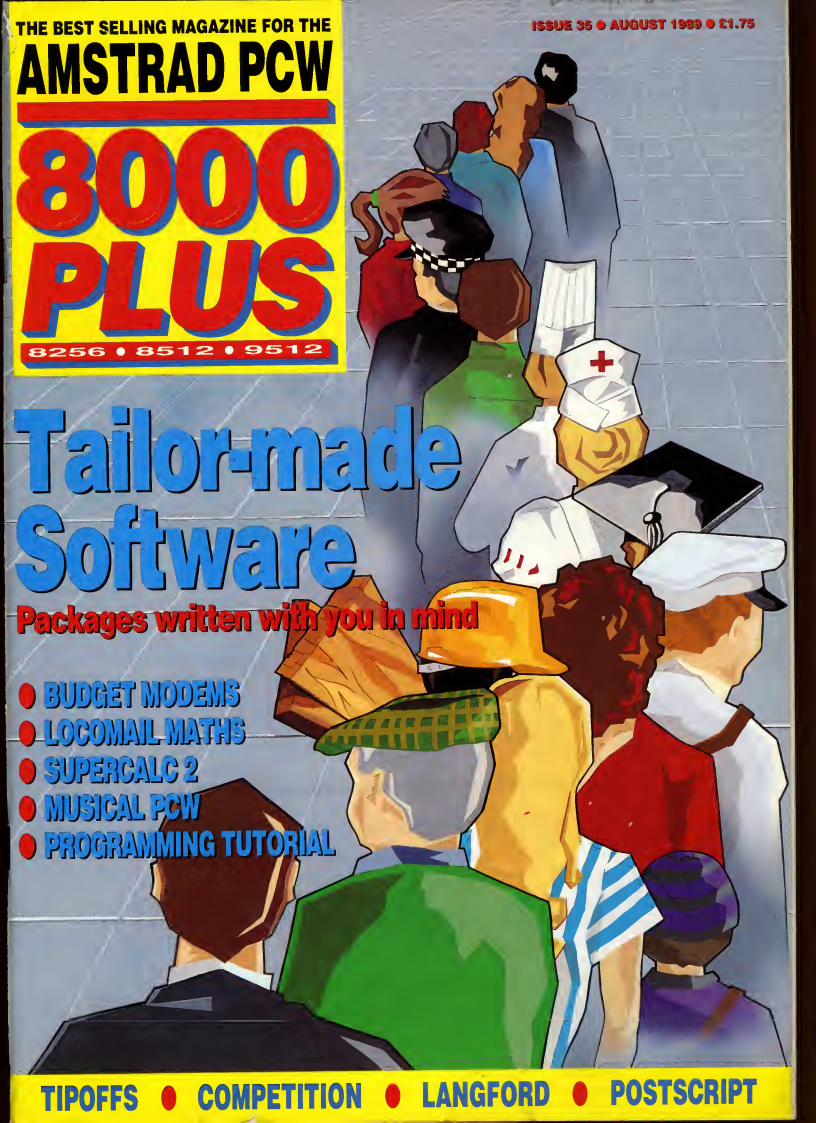

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FOREWORD

You've never had it so good

There seems to be trouble at t'PCW mill in these halcyon days of high summer. So many products promised, so few arriving, and that one immediately falling over. Should we be dismayed at the failure of these products to actually appear? I think not.

With three quarters of a million PCWs in Britain and many more around the world, there is an enormous market potential for any company. Tapping into it, however, isn't always that easy.

PCW owners are only too aware that they bave bought a complete system, all the hardware and software they need to get the job done.

Other computer owners are forever fretting about adding a disc drive, or a printer, or a piece of software; they have to think about buying extras in order to get their computer to do the things they'd like it to do. We can just switch on and get on with the job from day one.

But what about those folk who'd like to sell thousands of PCW owners a little something extra? No manufacturer can afford to spend a lot of money on new products without seeing if there's going to be a market for them; they have to test the water with trial advertisments and a few prototypes of whatever it is they're selling. If they're lucky, business will prove brisk but not too brisk .

In some ways the worst thing that can happen is for a sudden massive demand to develop which swamps a company's ability to manufacture the goodies and also overwhelms their administrative system. This is when problems of customer confidence develop.

The number of companies testing the PCW market goes to show that it's still an active one. The future looks good even if the present is proving a shade frustrating.

Spare Database a soupcon of sympathy. Mini Office was written in the C language, we hear that the original programmer is long gone. Read a little C code and weep for his replacement.

Ste

Protext Competition Winners

The lights were dimmed. The audience was hushed. The cards were drawn from the office beret by a nervous pouting Editor and the names read in the sonorous, earthy voice of the Production Editor. Those names were:

- 1st. **Mrs G A Price**
  Dudley
  W Midlands
- 2nd **K T Eades**
  Coventry
  Warwickshire
- 3rd **William Bosley**
  Bath
  Avon

The results of last month's Tempmates competition will be announced in next month's news. But before all that, make sure to look at the back page for the chance to win lots of LocoScript goodies!

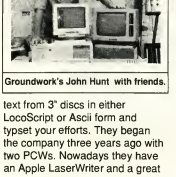
Subscription Rate Changes

We said we could only hold it for a month. The subscription rate for 8000 Plus will now be £21; as usual, however, this includes a whole host of freebies!

Self-Publicists Abound

According to John Hunt, a partner in the Cumbrian-based Groundwork Group Development: "The series of articles in 8000 Plus about self-publishing described so many of the problems we'd encountered trying to get together decent quality books on a tight budget. We felt we could offer a unique package....".

The Cumbrian based company came up with Into Print, a publishing support service. What this means is that they will take



Groundwork's John Hunt with friends.

text from 3" discs in either LocoScript or Ascii form and typset your efforts. They began the company three years ago with two PCWs. Nowadays they have an Apple LaserWriter and a great deal of experience to help budding authors and authoresses.

Other services offered by Groundwork include training, editorial help and other literary aids. The company welcomes anyone with a short book, a pamphlet, field guide, training manual or educational package. Non-fiction, though, is vastly preferred, as John Hunt told us "...we don't want to be a third rate vanity publisher."

Simple page design and laser printing costs from £5 per page. For a more comprehensive package, they will charge around £10 per page. John Hunt can be contacted on the following number (05395) 33600.

NEWS

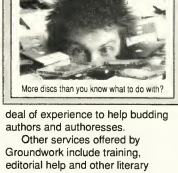
by Tim Smith

Discs? There's Millions of Them!

As we predicted in the May edition (issue 32), the situation as regards 3" discs has taken a turn for the better. At long, long last the good news is here. There will be 3" CF2 discs by the million coming into the shops soon!

Six million discs, manufactured by Panasonic in Japan, have been bought by Amstrad in a recent deal. It is not known, at the moment, whether they will be packaged with the hard plastic cases of old or the newer paper jackets; but as the discs themselves are sturdy enough this should make no difference to their life expectancy.

The sudden influx has been triggered as Amstrad have now worked out a strategy in relation to 3" disc users. (It should be noted that it is not just PCW owners who make use of this format, there are also owners of



More discs than you know what to do with?

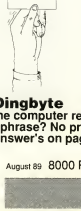
with CPCs and Sinclair +3s).

According to sources within Amstrad, the whole marketing policy relating to the discs has been changed. Happily, the company have decided to include the 3" discs within the corporate fold as opposed to farming them out as in previous years. With Amstrad's normally shrewd interpretation of their markets this bodes very well indeed for the future of the PCW range.

Peter Roback, Product Marketing Manager for software and peripherals, assured us that Amstrad have every intention of staying in the 3" disc market (of which they are undoubtedly the market leaders) in the foreseeable future.

His overall comment on the matter was, "The success of the PCW range has soaked up vast quantities of CF2 discs, but I can now assure end users that they will have no problems purchasing them from now on..."

As had been expected the price of the discs will change. A sum of £2.99 will probably be the general retail value. It would seem that the atmosphere surrounding the PCW is getting healthier and healthier as each day goes by!



Dingbyte

What is the computer related word or phrase? No prizes but the answer's on page 8.

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Amstrad Care...Official!

As we reported last month, the 1989 Amstrad Pro-Celebrity Tennis Tournament was to be held at the Albert Hall on July 23rd. This star spattered evening was no ego massaging exercise but a serious attempt to raise money on behalf of the Muscular Dystrophy Group.

The tournament was organised as a knock-out competition with both singles and doubles matches being played. It appears that a veritable galaxy of stars turned up to play, including Frank Bruno and Richard Attenborough, who is the President of the group.

Alan Sugar and Veejay Amritraj after winning the Pro-Celebrity Tournament at the Albert Hall.

Compered by Jimmy Tarbuck, the competition ran on through the evening and climaxed with a final victory for Veejay Amritraj and Alan Sugar over John Lloyd and Terry Wogan.

£165,000 was raised during the evening. This figure is more than twice the amount made by any of the previous tournaments.

You're Barred!... of Avon

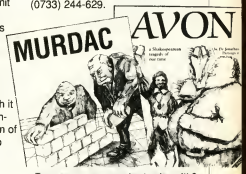
Topologika, who have already brought us such games as Return to Doom, are publishing another one of their text-only adventures for the PCW.

The new addition to the stable is entitled Avon, a Shakespearian saga. The company themselves freely admit that they have not yet supplied state of the art graphics. But this has not stopped them from producing some very enjoyable outings in the past.

There is more to Avon than the chance to beat witches and influence people. Packaged with it are a postcard from Stratford-on-Avon, documentation in the form of a letter, and a free game new to the PCW called Murdac.

Both are said to provide interesting puzzles which will appeal more to the mature player.' This is why we will be reviewing it in the very near future. An in-depth knowledge of Shakespeare's works (or maybe Bacon's or even de Vere's) is not essential to the game but as the company say - the poetry adds to the adventure.

Avon will cost you £17.50, including Murdac and help sheets. Topologika can be contacted on (0733) 244-629.



Two new games or a play to play with?

CLUB NEWS

If you run a club, group or organisation which is either PCW or CP/M related – or if your club uses any of the PCW range – why not write in and tell us? We are always glad to hear from people who are starting up new clubs (and in the present climate of positive PCW feeling this is no bad idea). So, if you think that 8000 Plus and Club News might be able to do your club some good, you should send the gen to: Clubs News, 8000 Plus, 4 Queen St, Bath BA1 1EJ.

As no letters defending chain letters have come in, we have decided, for now, to give the people involved no more publicity.

Bulletin for You

This month we kick off the proceedings with two new bulletin boards or BBSs as they are known. You need a few things to access a bulletin board; the first is a computer, the second is a modem (see the feature on pages 45-47 for more information on these), the third is a phone number and the fourth is a good friend in the accounts department of British Telecom. Bulletin boards can become addictive.

Leeds the Way

The first board we will look at is new on the scene and has been set up in Leeds. As with a lot of BBSs membership is free. Mike Zanker, the sysop (or system operator) intends it to be PCW specific. He has set aside areas of the board for LocoScript and CP/M. He also tells us that Leeds PCW is "...particularly suited to the first time 'boardwalker', it is very user-friendly." We can vouch for this. Finally, as an incentive Mike also has plenty of public domain software available. He is also always on the look out for more.

Leeds PCW is on-line during the following periods:

Monday to Friday	4pm to 8pm.
Saturday and Sunday	8am to noon.

Both 1275 and 300 baud are supported with 8 data bits, no parity and 1 stop bit.

The phone number is (0532) 796-143. So why not give it a ring and support a new club from the comfort of your own home?

You Dirty Rascal!

The second BBS, which goes by the name "King of the Castle" due to the sysop being called Chris King, has been going for some time now. According to Chris, the board, which is run from an 8512, caters for CP/M users. There are several other areas which might be of interest. Speciality subjects covered are: science fiction, programming, adventures and comms. There is also an on-line trading game.

The software for the board is called Bulldog and is the same as that used by Leeds PCW. When we logged on, it seemed fast and friendly and saves your money while being amiable. It was written by a young man called Blane Brambl; more about him in the future we hope.

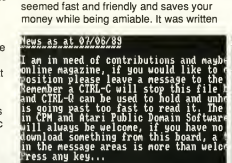
As with Leeds PCW, King of the Castle is free and has plenty of Public Domain software to be downloaded. The times you will need to know about are as follows:

Mon to Thurs	8pm to 6.45 am
Fri	8pm to noon Saturday.
Sat	6pm to noon Sunday.
Sun	6pm to 6.45am Monday.

The following baud rates and settings apply: V21(300/300), V22(1200/1200), V23 (1200/75). 8 data bits, 1 stop bit, no parity.

Most importantly the phone number is: (0233) 620-228.

Have a good month and keep writing in!



On the left we have King of the Castle while on the right sits Leeds PCW, the new boy.

Spiking in Tongue

The PCW is a fine machine as we all know. It rarely makes mistakes and if it does, it normally means that there are parts which are worn out. The only other reason it is likely to come a cropper and lose your data will be when it gets hit by the dreaded power surge or spike.

There are already a number of devices which claim to defeat spikes. Apollo Electronic Products Ltd have come up with a British made range which include the following: a plug unit at £12.50, a 3-way adaptor at £16.00, and 4-gang strip adaptor at £35.00. All these prices include post, packing and VAT. They are all capable of absorbing a spike of 4500 Amps/225 Joules.

Apollo can be contacted on (04858) 8156.

A free plug? No they actually do cost money but life should be less spiky.

Feeding Time

It looks like someone has been having a word with Amstrad about the million or so PCW owners out here. Not only have they come through on the disc front but they have also realised that many people don't like to see their letters going out with perforations from using continuous stationery.

They have brought out an automatic cut sheet feeder for the PCW9512. Amstrad's comment was, "Over the years we have been inundated with requests to provide specially designed peripherals for our word processors. After extensive research into the needs of users we are now announcing our automatic cut sheet feeder which we believe will provide a useful and cost effective addition to the PCW 9512 range."

What the machine actually does is to feed single sheets of A4 paper through the daisy wheel printer. This will allow for letter heads and should give a more professional look to your work. We are awaiting a review model from Amstrad's public relations company.

The full name of the mechanism is the Amstrad ASF9512. It comes with two discs, the first containing a new version of LocoScript, version 2.29, the second an amended CP/M Plus disc. Both have been specially designed to work with the ASF9512; the CP/M disc will enable other CP/M programs to work with the feeder.

Finally, this new addition will retail at £99.00 plus VAT.

Amstrad's new automatic cut sheet feeder. No more continous strain.

LocoPhiles Listen

An updated LocoFile manual is now available. Fully ringbound and 196 pages long it retails at £14.95. If you want to update your present version you should send the cover and £5.95 to: Locomotive Software, Allen Court, Dorking, Surrey, RH4 1YL.

The 2000 Year Old Man Writes

"The last people from whom we expected customer feedback were 2000 year old Greeks!"

This was the recent comment from Locomotive's Commercial Director Howard Fisher about the new versions of LocoScript launched at the London Language show.

Along with languages already supported by LocoScript 2, for example Welsh and modern Greek, Locomotive have come up with a classically compatible version. Ancient Greek, useful for scholars or people interested in many forms of symbolic logic, is now on the market.

To introduce the dialect of Plato, Locomotive had to add such characters as the digamma, the sampi and the luna sigma as well as breathing marks required for the language.

LocoScript versions 2.28 and upwards will be available at the unchanged LocoScript price of £24.99

Not to be confined to Western Europe the company also decided to look east with versions of Farsi, the offical language of Iran, Arabic and Urdu. Nothing really special you might think but - and it's a good but - the software also provides a choice of text reading from right to left or vice versa. On top of all this is the fact that within Arabic the shapes of characters are treated differently depending on their position in a word and LocoScript understands this.

Locomotive's Howard Fisher chatting in Urdu with HRH the Duke of Kent at the London Language Show.

The full Euro-Arabic LocoScript is available on the 8000 series and is priced at £85. Together with a PCW this would give you a full Arabic word processor for around £500, about a tenth of the price of those currently available.

Micro Designs

We mentioned that Creative Technologies from Uttoxeter would be bringing out a new desktop publishing package called Micro Design. So they have, and Don Taylor of the company has not only sent us one of the first fully working versions: he followed this up a few days later with an amended program disc. The review follows next month. The software costs £59.95 or £99.95 with a Kempston mouse. Contact Creative Technology on (0889) 567-160.

Answer to dingbyte: Pull-Down Menu

Citizen Swift 24. A new printer for the PCW

And another is the Epson LQ-550

SNIPPETS

More Discs

Mansall Design, a company from Barnet have also got into the disc market. They have managed to secure a substantial supply of good quality 3" discs from a European source. These will run on any of the PCW series. If you wish to find out more call (01) 449 4872.

Cornix all cars

Cornix, the company responsible for Simple Accounts, have moved and are expanding. For more information call Cornix Software Ltd in Hitchin (0462) 422-232

Get your fax right!

Many many apologies to Sigma Press and any readers who tried phoning the number we gave last month. Yes it was the fax screaming at you! The real number is (0625) 531-035; we know, we've just phoned it.....

Doctor in the house

Dave Smith, the disc doctor, has asked us to remind all of our readers that 1) if they back-up their discs properly they shouldn't need him, 2) if any of your discs do corrupt and you find yourself in need of Dave's help, you must ring him first on: (0892) 283- 5974. As Dave's company now has limited liability he has to charge for his services but all monies will still go to charity.

Cavalier attitude

Cavalier Software have brought out a new range of programs to be used by hoteliers. You can contact them on (01) 639-6683.

24 pins and a packet of crisps please

Both Epson and Citizen have brought out 24 pin printers. The former is obviously Epson-compatible (though they also call it low end) but so, surprisingly, is the latter. We hope to get review machines soonest. The Epson LQ-550 retails at £399 while the Citizen will go for £389.

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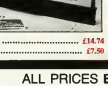

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WHATEVER

Vertical software: Tim Smith takes a look at so tware

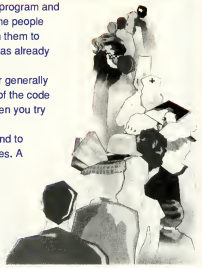
The PCW can draw, do the accounts, play games. It can also help to do a root canal, tend a field or help to pull a pint. Can it do anything for you? The chances are that your job, business or career has its own unique facets. Your PCW has probably helped to improve your working habits by speeding up mail shots or providing you with a fast accurate database. But does it address that singular quality which sets your work apart from the rest? If the answer's no, stay calm; it's not the PCW, it's the software. Off-the-shelf software is normally quite adequate, but if your business involves an element of specialisation it can be left wanting.

If your business requires individual software treatment you have two options. The first is to learn how to program and write your own software. Obviously this takes time and effort and, like playing a musical instrument, some people just can't get the knack. Your other option is to find someone who can already program and commission them to write a program specifically for you. This is where the concept of vertical software comes in; someone has already done it and stands ready to sell you the fruits of their labour.

Vertical software differs from conventional off-the-shelf programs in one very important manner: the user generally has direct contact with the manufacturer. Because of the specialised nature of verticle software the writers of the code also usually market it, so there are none of the "...the programmer's in Ibiza for five months.." comments when you try to sort out a costly bug.

In fact, most producers will be pleased to receive feedback from the user and will attempt both to respond to criticisms and incorporate suggestions into their product. Any improvement to the software benefits both sides. A good business will tend to be an expanding business and expansion means change. Consequently you will need the software to grow with the company. Close links between user and manufacturer will mean that any upgrades which do need to be made are achieved quickly and efficiently.

Prices for vertical software differ as widely as the products themselves. There are perfectly adequate packages which will act as add-ons for the mass produced programs. Equally you will be able to find impressive pieces of vertical software running into six or seven hundred pounds including the installation of a PCW!



Fee Manager

£499 ● Practice Systems (061) 320 8134 ● 8000s only

It would be refreshing to see some of the mass produced software looking as confident and professional as Fee Manager. Then again it's aimed at a highly professional market, that of dentistry.

The package you receive contains a ring bound manual, produced on a PCW and comprehensive enough to make the training video and after-sales service which are also included almost unnecessary. The program is written in Basic, so it is not the fastest in the world but this has no bearing on its efficiency. More than a database, Fee Manager will produce recall letters, various required forms, estimates and statements. This obviously saves an immense amount of time, and hence money.

Unlike many programmers who seem to take a demonic pleasure in redefining keyboards, Practice Systems have left well alone. Consequently the inputting of information, and there is a great deal of this for only thirty-two teeth, could hardly be easier. No irritating bleeps when you make corrections and no convoluted key strokes.

An invaluable element is the Charting screen, used following an examination. On to the screen comes a grid-like diagram consisting of cells each of which represent a tooth. Into each of these go various codes for treatments, or a blank for a healthy tooth. Obviously, if a patient visits regularly you end up with comprehensive electronic dental records which are not going to get lost down the back of a filing cabinet.

Aside from the amount of technical knowledge required for a dentist, the bureaucracy involved in healthcare is enough to merit this software. One of the main advantages over paper-based systems is the fact that everything relating to one patient is kept in one place. The price might look high but with the time and money which it will save, even a moderately busy practice should reap the benefits. If you were thinking of designing vertical software, let alone using it, you could do worse than give Fee Manager a look over.

R YOU WANT

of ware written with a particular business in mind

Inn Control Master

£230 ● GT Micros (0604) 810-720 ● PCW 8512 only

As the name suggests, this comprehensive suite of programs is concerned with the day to day running of pubs. Inn Control has been on the market for around two years and during this time there have been many changes made to the original package. These changes derived from feedback received by Michael Green at GT Micros from the many users around the country.

The £230 you pay buys a comprehensive package which deals with staff wages, incoming and outgoing monies, VAT and stock control. As is common to good vertical software it makes use of language familiar to its users in their business. This gives a familiar feel to the program for those landlord/ladies who are initially uncertain about using computers.

Secondly GT Micros offer a telephone hotline which operates until 9.30 pm. For those people who are new to the PCW, and have a pub to run, this is an essential.

Written using Mallard Basic and Jetsam, it is not the fastest program in the world but it does handle files and large chunks of information with accuracy and ease. Single keystrokes and extensive use of pull-down menus give the program a logical and straightforward feel. Very few frills and plenty of printouts which can be presented to the accountant or the VAT man. All in all it's very impressive save for two points. The documentation is sparse and most of it is on screen, which is of little use if you wish to make notes on the bus. Secondly, the PCW bleep is more than apparent whenever something appears on the screen.

McGregor Building Estimator

£99 ● McGregor Software (0387) 88612 ● All PCWs

As with many pieces of vertical software this package was written by people in the trade. This provides an immediate advantage as both the user and the manufacturer are talking the same language.

Stemming from the fact that the majority of people begin their PCW life with LocoScript and are comfortable with pull-down menus, the system makes great use of these. Unlike many packages, however, it is not merely a dedicated database. The main idea behind it is that it is an estimation system.

As the building trade is far more complex than folklore would have us believe the program is split into sections each of which provides a number of datafiles which are placed in the M drive when the program is loaded. For example, the Structural Joinery menu contains information about trussed sections and ceiling joists. Different sizes, materials and costs are included. The user merely measures up, gets the dimensions and inputs these. The Estimator program will do the rest.

This can be slightly limiting as the data files are impossible to alter on your own. Meaning that if you decided to create a Balsa wood joist to trap burglars the program will be unable to accept it. Happily McGregor will be more than pleased to work with you in order to get a system tailored to your specific needs. Basically the software works as an assistant with a great deal of technical knowledge to hand but no initiative, which is just about perfect.

Once all the calculations have been made, and these can be anything from the man hours required to build a wall around a defined area, to the pricing, including bricks, cement and labour, for that same wall, the printouts come thick, fast and detailed.

McGregor, as with the better class of vertical software manufacturers, are always ready to be of help. According to some of their users they are very receptive to ideas which might improve the system. A good piece of software indeed.

Newsagents Software £549 ●

Language Services (0843) 69847 ● PCW 8512 only

Running a newsagents is not all sweets and special offers. There are such things as paper rounds to contend with. Mr Cooper who runs a sizable newsagents in Wiltshire also uses a Language Services set up. After leaving the profession a few years ago he vowed never to return. One of the main reasons behind this decision was the complexity of the paper round. He explained to us that "...prices for papers and magazines change, people cancel orders when they go on holiday, people take different papers on different days. When you are dealing with seven to eight hundred people over a number of rounds this becomes very complicated indeed."

In order to deal with all this Mr Cooper bought Newsagent Software for his PCW which he says saves him at least three hours a day and kept him in the business. The program keeps track of each separate round on a day to day basis. It provides a list for each paper boy or girl to take out with them and more importantly it provides regular print-outs for billing purposes. An individual customer's details can be called up whenever required and access is achieved by name rather than code number.

As far as Mr Cooper was concerned the system could not have been better. Not being a computer buff at all, the fact that everything was laid out clearly was a boon. His concluding comments were particularly telling, "A good program should tell you what it wants and as long as you follow the prompts you shouldn't be able to go wrong."

Sum-It Farming Systems

£100-400 (Demo discs £35) ● Sum-It Computer Systems (024 027)238 ● All PCWs

This is a case of so many packages and so little time. It seems that there are more types of farm under the sun than seeds on a sunflower and Sum-It appear to cater for most of them.

Their range of software covers most types of agricultural concern from straightforward arable field management to cattle farming, pig specialists, herd management and payroll. Each of these very specific systems comes with software support for three months included in the purchase price. There is a telephone hotline which operates from 8 am to 8pm and is manned by experts.

We spoke to a farmer who has been using one of the systems for several years. He told us that not only was his particular piece of Sum-It software easy to use but that it had also saved them time, and consequently, money. The main use is payroll and costings although field analysis is coming on line. What this actually means is that details of a field, such as its size in hectares, the crop used and yields can be added to a database. Impressive software and excellent support was the verdict.

George's Computer Bookshop, 87 Park Street, Bristol, also stocks software. Phone Paul Taylor on 0272 276602 ext 222 for further information.

Book Log

Paul Taylor, of George's Computer Bookshop, Park Street, Bristol, thinks the PCW is "...quite a nice little machine on the whole". Although he freely admits that he wouldn't say no to a much bigger machine with say, 20 megabytes of hard disc. He did confirm that his PCW8512 is perfect for the job in hand: cataloguing the shop's vast selection of books.

When Paul took over the bookshop a couple of years ago, he had a very strong interest in computers, having already worked quite extensively with them within the company. George's original catalogue had been compiled manually by Paul's predecessors, and was dated 1983. It was in dire need of some serious overhauling.

"It seemed ridiculous," says Paul, "especially when I had hardware sitting on the shelves doing nothing. I had originally thought of doing something with LocoScript but it's so very slow. So I decided to bring an unused PCW – which had originally been supplied as a demo machine – and a copy of DBase, to the rescue."

What Paul does is produce the raw data in DBase, dump it in an Ascii file, and then import it into LocoScript to "..pretty it up." "You can do that in DBase," he says, "but it tends to get pretty complicated; you end up having to insert printer control characters everywhere."

The Art of the Deal

What if you want to start writing vertical software? It is no use going off half-cocked, you have be able to play several roles at once: systems analyst, programmer, manual writer, and helpline. What follows is a brief rundown of each of these.

Systems Analyst:

Rather grand-sounding but what it actually means is that you gain a clear working knowledge of the business for which you are writing the software. This means listening a great deal, and asking the right questions. It is best to stick with areas which you already know, as every business has its own jargon.

Programmer:

The workhorse of the operation. A good set of notes from the systems analyst will ease your job immeasurably. Learn two computer languages, if not more. Find the one with which you are most comfortable and master it. When it comes to the program(s), keep the prompts simple, use the jargon of the business and write clear, fully documented, code. This will reap rewards when it comes to upgrading the program at a later date.

Manual Writer:

It is all very well to create the program but bear in mind that the end user will probably be someone with little knowledge of computing and less inclination to learn. The manual will probably take more time to write than the program. It is a good idea to include details of error messages, and a simple tutorial section. Unlike certain large software houses, you should always include an index and a glossary. The best piece of software can be diminished by a bad manual; the converse, however, is not true.

Helpline:

The business does not stop when the program is running on the client's PCW. During the first few months there will probably be debugging to do. There will also be various queries and the chances are that the customer will remember something they had missed at an earlier point. The more quickly you are able to iron out problems the better your relationship with your client will be. If you do operate in a specific business environment then a good name is essential and word of mouth will do a lot of selling for you. Finally, if your software is up to the job the customer may well expand their business. This means that they will need you to upgrade the system.

Going Up!

The term 'vertical software' derived from one of the many sixties' buzzwords: 'vertical production'. The business ethic was taken on board by quite a few companies but was rarely a good idea. It meant a company owning and controlling production from raw materials to retail outlets. Vertical software attempts to address the specific needs of a business and is a much better idea.

Mind the quality and feel the width

We have examined just a few of the vertical software programs available for those with specific business needs. There are many more on the market. The best place to look will be in the small ads or trade papers but shop around. If you think that you can do any better, the best way to find out is to have a go but be meticulous because one dodgy piece of software can ruin a small business (and your reputation). One good piece can improve it beyond all measure.

Space invaders

A more recent addition to his PCW-based cataloguing system is a Winchester hard disc from Timatic. "The system was adequate enough without the hard disc," he explains, "but it tended to get a bit sticky. You see the database occupies about half a megabyte; consequently, the indexes wouldn't fit on the disc. That meant that I had to boot up, load all the program's overlays and start of day into memory, which took about two minutes, and then swap discs. Now I've got the hard disc, it's just a question of a Profile.sub on the boot disc and everything else loads off the Winchester."

The Winchester is partitioned into three drives: C drive, which is 10 megs and D and E, which are 5 megs each. Paul keeps all his LocoScript-specific data on drive E, uses C for the database itself, while D is like a cross-over area.His only problem is that LocoScript now takes about two minutes to get started, probably because it has to search through such a large directory.

We asked Paul how many books he currently has stored in his catalogue. "Well, there's about 2,068 at the moment, but that's just the current file. I've also got over 2,500 on the old file, which is stuff that we used to stock and have now dumped. As you can see, I never actually wipe anything off on the basis that I – or somebody else – might need it."

Having everything all in one place makes life a lot easier for Paul. "If I wanted to do something specific with the program, like locate all entries conforming to a specific type, print them all out and make them look pretty, I no longer have to do a three or four disc juggling act. Now that I've managed to get everything on the Winchester in the one place, life's a damned sight easier."

Field work

A typical record in the database catalogue consists of the following fields: Book (ISBN) Number, Author, Book Title and Publisher. Any other information present is just for basic housekeeping – like where the book is, what's likely to be in it and so on.

"Why people find working with DBase difficult, I have absolutely no idea at all," says Paul. "Setting up the database format is easy. If you want to be clever, you can insert all kinds of data validation checks, and then, if you try to enter the wrong kind of data, non-numeric instead of numeric for example, the machine will just beep at you."

Paul also found it easier to customise his keyboard using Setkeys, as he found having to press the same key sequences about 15 times a day rather wearing.

Although DBase offers you up to a maximum of seven indexes to make use of, Paul steadfastly prefers to stick to just one, the ISBN number index. Even with the Winchester, though, it takes about nine or ten minutes to re-index the catalogue. Rewriting some 200k of index is not the work of a few seconds.

Paul hopes to soon produce a catalogue for publication; "The only trouble is," he adds with a wry smile, "the flipping thing's going to be out of date virtually as soon as it's published." ■

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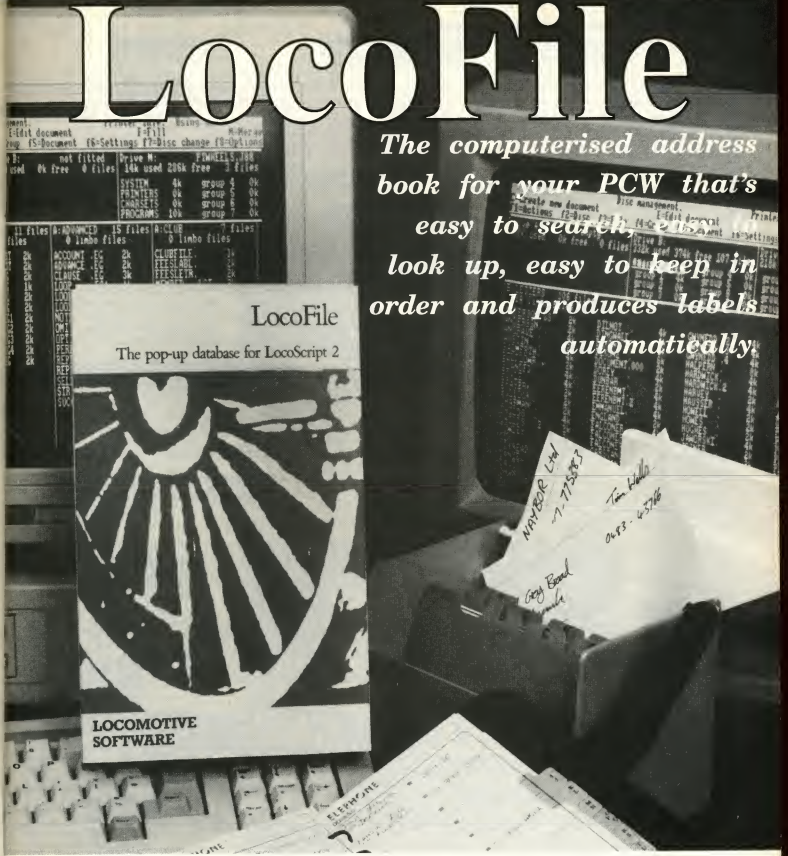

WHAT THE PRESS SAY:

... At any point while working all your records are available instantly and the information from within them can be included in your LocoScript documents ...

Kay Ewbank
Amstrad PCW Magazine, April 1989

... LocoFile's principal asset, apart from being ridiculously easy to use, is the close collaboration with LocoScript ...

Christina Erskine
Computer Shopper, March 1989

...It's difficult to think of any LocoScripters who wouldn't find LocoFile useful...

Rob Ainsley
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MESSAGE PARLOUR

Annette Dougal ponders the error messages of her ways

Error messages are a program's way of warning you that something has, or is about to, go wrong. Nine times out of ten they are giving you a chance to correct a problem before it becomes serious and, therefore, must never be ignored. But how often do the messages themselves actually help you put things right?

Before the advent of PCWs, computers were designed by experts for experts. Software was unfriendly, if not downright hostile. Instead of informing the user, manuals seemed written to baffle, error messages designed to frighten. Many people, when faced with a menacing message on a frozen screen, often accompanied by a piercing beep, were paralysed with fear and simply turned off the computer. But of course abandoning the problem doesn't necessarily cure it.

The medium is the message

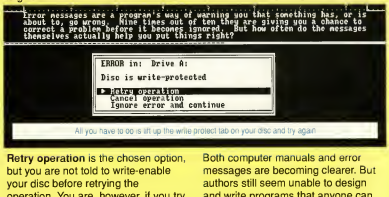
The PCW user guide states 'the advantage of the PCW8256 is that it has been designed side-by-side with Locomotive Software's LocoScript to provide a dedicated word processor that is particularly easy to use.' But is this true? Easy to use packages should allow you to get up and running quickly without having to plough through reams of technical documentation. They should also be difficult to crash. In addition, they have to pass one crucial test. When an error does occur, do the error messages just indicate a mistake or actually help you correct it? Taking this as a benchmark, does LocoScript rate as TUF – Truly User Friendly?

If you press an unacceptable key (for example, RETURN to make your choice from a menu) LocoScript rebukes you with a sharp beep and ignores the command, waiting imperiously until you press the right key. No message appears to help you. The manual's Troubleshooting Appendix diagnoses the condition, but doesn't really explain it. What you should do is this: use the down arrow key to move the cursor to your choice, press + if indicated by a – sign, and then press ENTER, not RETURN.

Disc errors, which are much more drastic, are indicated by messages. LocoScript's error information appears right in the middle of the screen and both the problem and action to be taken are stated. For example, if you try to save a file on a disc which has insufficient space, the following statement appears:

Run disc manager is ticked and highlighted, encouraging you to choose this option. Do so, as this will let you make space on your disc by deleting unwanted files or by moving files to another drive. Don't be tempted to choose Cancel operation to cure the error, as your file will not be saved and you will lose your work.

If you try to save a file on a write-protected disc, the following message is given:



Retry operation is the chosen option, but you are not told to write-enable your disc before retrying the operation. You are, however, if you try to open a document on a write-protected disc, but only as a third option, the first choice being to send the result to Drive M. This blithely encourages novices to lose a whole session's work when they switch off the machine. Tough, yes. TUF no.

LocoScript is a fine word processing package, but error messages and solutions are not presented to the user in easy-to-understand English.

Pander to the people

The introduction of the PCW range has brought computing power within the reach of many people who would not have dreamed of owning, such a machine a couple of years ago. But, whilst computers may be affordable, are they accessible?

Software is getting easier to use. Both computer manuals and error messages are becoming clearer. But authors still seem unable to design and write programs that anyone can use and understand. Even Amstrad's flagship software fails to reach the benchmark as a truly user-friendly package. The overall report to software houses is still 'SOS: ERROR 999: INCOMPREHENSIBILITY RAMPANT'. ■

LocoFile the laconic

If you run out of disc space as LocoFile is trying to add a new record to one of your datafiles, the standard LocoScript **Disk is** full error message appears. But, if you choose **Cancel operation**, you don't just exit from the datafile and lose that record. Your datafile is 'then left in an invalid state'. The manual goes on to comment, 'This is not recommended.'

Dream of Blue Turtles?

TURTLE OUT OF BOUNDS. PRIMITIVE NOT IMPLEMENTED.

Moments from Robinson Crusoe? No, two of Dr Logo's error messages, both of which are clear within the context of that programming language.

As one of the programs aimed at the new generation of computer users, Dr Logo is designed to be easy to use and this is reflected in the clarity of its error messages. Disc errors are indicated by easily understood statements such as: **YOU NEED AT LEAST 2 DRIVES TO DO THIS** or **I'M HAVING TROUBLE WITH THE DISK** or **THE DISK IS FULL.**

The Ten Trouble-Shooting Commandments

1. You may just have pressed the wrong key, for example [RETURN] instead of [ENTER], so check, and if so, retry.
2. Look for help on the screen. Follow any instructions given; for example, press CAN, EXIT or STOP.
3. Eliminate human error by checking for obvious mistakes. Is there paper in the printer? Does the printer know there is paper? Is there a disc in the drive? Is it the right way round? Is it formatted? Have you put a B disc in drive A? (To avoid this in future, always write on the disc label which drive it was formatted for.) Is the disc write-protected?
4. Seek help from the manual's section on error messages or trouble-shooting. (No-one likes to advertise possible problems, so these tend to be hidden at the back of the manual, possibly in an appendix.)
5. Still no joy? Many problems can be solved by simply clearing the computer's memory and restarting the program, *but you will lose any work you haven't saved.* Use [SHIFT], [EXTRA] and [EXIT] to reset the machine.
6. If the error recurs, could it be that the disc is faulty? Try another copy.
7. Could the drive be faulty? Try your discs on another PCW.
8. If it is not a physical problem, contact the software supplier in case you have hit a known bug.
9. If it is a physical problem, contact the dealer to get your machine repaired.
10. Read the manual (the unheeded cry of the hotline helper).

OUT OF A

The PCW takes care of some taxing duties in The Gambia; Derek

The entire staff of the Sales Tax unit. From the left, Alex Nying, myself, Tumbutu Drammeh and Peter Touray.

Floating capital

Driving into Banjul, you pass a flotilla of half-sunken ships and boats in the harbour bay, including what remains of 'Radio Caroline', the very first pirate radio ship to broadcast to the UK.

My wife has always had a wanderlust. This she attributes to having had an Irish gypsy as a paternal grandmother. She was always having a go at me for being a stick-in-the-mud, stay-at-home, pipe and slipper archetypal Taurean. Perhaps with some justification too: although I've never smoked a pipe, I had been working in Chesterfield for the past 15 years. (I, on the other hand, regarded this as a purely natural reaction to having spent the previous eight years travelling all over the country.) So, in the February of '88, I called her bluff. I came home and asked her how she fancied Africa – not for a holiday, but to live in The Gambia for two years.

I had seen an advertisement for a 'sales tax adviser' to the government out there. After we had dug out the old school atlas and found, with some difficulty, The Gambia – the smallest independant nation in Africa – about half as large again as Lincolnshire – we sat down to discuss the possible advantages and disadvantages of living in a tropical climate.

Moving introductions

As far as I was concerned, the attraction lay in the job itself – the chance to set up and run a brand new taxation system the way *I* wanted it, instead of merely carrying out instructions from anonymous boffins back at HQ. It seemed like the opportunity of a lifetime. Putting to the back of my mind little snags like the climate (if I lie even in the UK sun for more than about an hour I get sunstroke), and the multiple injections we all had to have against everything from cholera to yellow fever, I decided to enter the lists.

Much to my surprise, the job was mine, and we had only a few weeks to make all the plans and preparations, including letting the house, packing, arranging for storage of personal belongings, and notifying a thousand and one people of our change of address. This was where our PCW made its introduction: a standard letter on Mini Office Professional was swiftly despatched to banks, local authorities, insurance companies and so on. If only some of those businesses were half as efficient; we were still receiving mail at the old address for weeks after we had arrived in Africa.

Desert island discs

The government of The Gambia was very keen to begin the new tax on the 1st July despite the fact that I couldn't arrive before the 7th June. It became obvious that the PCW would have to be sent air freight to avoid the two or three weeks' delay by sea. Unfortunately, there were only two flights per week in the summer, and due to lack of freight capacity, my PCW was repeatedly off-loaded at Gatwick and took four weeks to arrive. It was, however, still better than the sea freight which took two months.

As we'd never been to Africa before, it seemed like a dream as we stepped out of the 'plane into Turkish Bath heat at Yundum Airport to be met by a reception committee from the British High Commission and my Customs colleagues. The formalities over, we were whisked away in a fleet of cars through the savannah and villages of thatched huts. Although we could see that The Gambia is still a developing country, we were struck by the obvious friendliness of the people, who waved and smiled as we passed by. Despite the heat and dust, the Gambian women look unbelievably smart and elegant in colourful long dresses and turbans – as though they were perpetually on their way to a party.

Next day, I was driven ten miles from the hotel to Banjul. Banjul is the capital of The Gambia and has a population roughly the same size as Chesterfield's. It was called Bathurst in colonial days, and everywhere there are signs of the old traditions – King George V Square, The Royal Victoria Hospital – mingling with the new – like Independance Drive and The Presidential Palace.

Balance of power

I struggled along without the PCW for four weeks, and then came good news – it had arrived at last. I dashed to the

Power of Babel

We had bought the PCW8512 second-hand after I had persuaded my wife that this would suit her better than the electric typewriter she thought she wanted. She had to learn word processing rather quickly, as she was immediately given a job typing the manuscript of a book about coke production. Gripping stuff, full of totally incomprehensible foreign words, chemical formulae and symbols. LocoScript, however, excelled itself.

It was a two-man (sorry, person) job – Jean typed while I made helpful suggestions over her shoulder and periodically destroyed several hours' work trying to save it onto discs which turned out to be full. We learned the hard way that a long typing job has to be split up into sections if you don't want to spend hours waiting for LocoScript 1 to get to page 57.

LocoScript 2 was a huge improvement, although I still have to get out the book when attempting headers, footers and page numbers. I find Mini Office Professional (that was) much more user-friendly in that you can see what's happening as you set up margins, tabs and so on on the ruler line. Jean, however, prefers the better choice of typeface and justification that LocoScript offers.

AFRICA II

Derek Robertson, Sales Tax Advisor, explains why he's quids in

airport and brought it back to the office. I had obtained a voltage regulator which is essential here, as the voltage fluctuates from about 150 to 220 volts, with occasional high surges. Not so occasional are the power cuts, due to generator problems at the power station. If only I had had the foresight to bring a mains back-up device, I wouldn't have had to spend so much time retyping lost data. Thank goodness Mini Office's word processor reminds you to save data about every ten minutes.

Life was hectic. The Minister of Finance made his budget speech on 24th June, announcing that Sales Tax would begin on 1st July, 'under the control of an expert from the United Kingdom'. Who? Me?

I was used to deadlines, but not with the relaxed manner of doing business in Africa. It is, for example, considered very rude to launch straight into discussions before lengthy greetings have been exchanged and enquiries made into the well-being of everyone present – and their families. Meetings rarely start on time, and are often punctuated by the chairman receiving (and making) telephone calls on other topics.

Spreading the word

The first job was to design and run off several hundred leaflets and forms so that businessmen could read about the new tax and apply for registration. I had great fun experimenting with tall, wide and condensed words, and the various phrases beloved of all civil servants – like 'For Official Use Only' and 'Delete if Inapplicable.'

We decided to register only those businesses whose annual turnover exceeds 100,000 Dalasis (roughly £8,300), thus avoiding the problems of small shop-keepers – and there are thousands of them over here – with no records worth speaking about.

Communciation is a big problem here – there is no television (apart from videos) and no nationally distributed newspaper of any sizeable circulation. Publicity for the new tax was therefore going to be difficult.

I became an overnight celebrity by making a broadcast on local radio and we held seminars for businessmen, but initially it looked like nobody was in a hurry to register for the doubtful privilege of collecting tax for the government. It looks like some attitudes are universal. My staff and I toured the business areas, distributing leaflets and application forms and explaining how Sales Tax would replace nine existing taxes (including 'Bed Tax' – and you thought they couldn't tax that).

My staff, incidentally, consisted of two Gambian Customs officers, and we are, at the moment, responsible for collecting more than a quarter of total government revenue.

Although Mini Office's database was easier to use than others I've tried (Cardbox), there were still many pitfalls for the unwary – like not making the format identical for the mailing list of names and addresses and the ledger cards. This meant that I couldn't update one and transfer data to the other; each had to be entered separately.

Fortunately, there are only a few hundred registrations to deal with. I eventually mastered the technique of mailmerging in spite of the instructions. In fact, 'mailmerge' is a complete misnomer here as there is no internal mail system (there's often no proper address as such). All deliveries have to be made by messenger (no, not with a forked stick.)

Working from home. This is the view from our house on the Atlantic coast. The temperature was about 90F in the shade.

The new tax was phased in over a period of four months, gradually bringing in more revenue from a wider range of goods and services. As the revenue increased, I was able to use the graphics program of Mini Office Professional to illustrate progress reports. I am, however, still struggling with attempts to use spreadsheet data directly in graphics. The spreadsheet itself has been useful – especially the ability to print sideways, as this means that I can analyse the revenue collected under lots of different headings.

Dunes with a view

Due to the frequent power cuts, I eventually decided to take the PCW back to my house – we now have an old colonial bungalow overlooking the Atlantic beach – where power cuts are far less frequent.

This means that I can work with a far more pleasant view; the bad news is that all data has to be kept manually at the office before transferring later to disc. I've asked for another 8512, and a generator for the office, but I will, apparently, have to accept an Epson. Even here everyone seems to worship the great god IBM. This will involve setting up completely new systems and rekeying a lot of information; but then, life would be boring if everything went smoothly, wouldn't it? ■

Mini Office update

Mini Office Professional, mentioned repeatedly throughout this article, is no longer available.
See this month's News for the latest installment in the Mini Office Professional Plus saga.

SETTING OFF

Data security is important, and SET is the utility with the power to password protect your files - and more

SET is one of those neglected utilities that have a whole range of useful, entertaining and interesting functions to offer. Certainly for anyone concerned with file security SET is the utility to get to know. You can hide your files, you can password protect them (or some of them). You can even password protect your discs.

Clean sweep

Those who feel all this setting of attributes seems a mite complex will be delighted to hear that the public domain program NSWP can do all these chores and more. Just tag the relevant files, press Y and you'll be presented with a list of attributes and asked which you want changed. Dead simple.

Security is an important, and often neglected, aspect of computing. Security comes in several flavours, so it's worth considering just what you mean when you talk about it. The most obvious kind of security is ensuring that others can't get their hands, or eyes, on your data.

SET can't help all that much with this problem except, possibly, in the case of extremely naive users (which lets out everyone who's reading this article, naturally). In the final analysis, the only way to protect your data from thieves is to lock up the disc on which it's stored.

Far more important from a practical point of view is data security – in the sense of protecting your data against accidental (or purposeful) loss or damage. It's in this area that SET can help a great deal.

To learn more about SET and how to use it, the first thing to do is to make up a disc to experiment on. This disc will need SET.COM, INITDIR.COM, TYPE.COM, ERASE.COM, DIR.COM, SHOW.COM and a nice variety of odd files to play with (including some plain Ascii files). Once you've done this, it's time to initialise the disc for the rest of the operations, so type **INITDIR A:** or **B** if you're using a second drive. From now on we'll assume that the drive is A.

After initialising this disc we can try the first trick, naming the disc. Just type:

SET [NAME=HARRIET].

Of course, this can be anything you like. Naming discs can be fun, but it lacks a certain functionality. In fact it's hard to think of a use for it, especially as you can only read it with SHOW [LABEL].

Security files

Quickly passing on to something a bit more useful, let's set all the files on the disc to Read Only; this will allow you to use the COM files (the actual programs), and to read the text files. What it will prevent is any erasure of the files. So now type:

SET A:*.* [RO].

This will set an attribute bit (see box) which tells the system not to allow any alteration of the file. Basically it prevents the files from being deleted or overwritten by CP/M but doesn't hide it in any way; a DIR will still show it.

Using *.* in the command means that all of the files on the disc are affected by the commands. Clearly it's faster to specify them all than to name them individually. But what if you decide that you do need to alter or delete one of the files? The answer is to set it back to Read Write status with the command:

SET FILENAME.TYP [RW].

Obviously you would replace FILENAME.TYP with the actual

Set to succeed

There are a number of parameters to the SET command, far too many to fit in the text, so here is a fairly complete list and what they do. File.typ is just a dummy name and would be replaced with the name of the file you were interested in or with a wildcard file specification

SET file.typ [password=dandy]	Set the file password to dandy
SET file.typ [ro]	Set the file to Read Only
SET file.typ [rw]	Set the file to Read and Write
SET file.typ [sys]	Set the file to System
SET file.typ [dir]	Unset the System attribute
SET file.typ [archive=off]	Set the file to unbacked up
SET file.typ [archive=on]	Set the file to backed up
SET file.typ [F1]	Set a user defined attributes (F1 to F4)
SET file.typ [protect=delete]	Password required only for deleting
SET file.typ [protect=write]	Password required for writing to file
SET file.typ [protect=read]	Password required for reading file
SET file.typ [protect=none]	Get rid of password for file
SET file.com [ro sys]	Sets file.com to Read Only and System status
SET [create=on, update=on]	Datestamp files
SET [access=on, update=on]	Datestamp files
SET [name=8000Plus]	Disc name becomes 8000Plus

Time ladies and gentlemen

One of the more impressive things SET offers is datestamping of files. Files can be stamped with either their date and time of creation and their last update or with the date and time of last access and their last update. It isn't possible to have all three. To display them you need DIR.COM. Simply type: DIR [date]

The only problem with datestamping is that you need to initialise the PCW with date and time (using the DATE utility) every time you start the PCW in order to keep everything straight. If you intend to make a lot of use of this facility, then you should seriously consider getting a built-in clock (such as the one SCA Systems fit into their serial/Centronic interface). Using a simple SUBMIT file (see issue 34 page 29), this can be made to set up the correct date and time on your PCW every time it's turned on.

```
A>set [access=on, update=on]

Label for drive A:

Directory        Passwds  Stamp    Stamp    Stamp
Label            Reqd     Create   Access   Update
--------------   -------  -------  -------  -------
A:LABEL          off      off      on       on

A>dir[date

Scanning Directory...

Sorting  Directory...

Directory For Drive A:  User  0

    Name      Bytes   Recs   Attributes   Prot      Update          Access
------------  ------  -----  ------------  -----  -------------  -------------

LOCO      TXT    10k     77 Dir RO        None   06/20/89 16:05  06/20/89 16:06
NS        COM    12k     92 Dir RW        None                   06/20/89 16:08
NSWP      COM    12k     92 Dir RW        None   06/20/89 16:05  06/20/89 16:06
OPENM835  SCR    24k    181 Dir RW        None
SC2835    SCR    24k    181 Dir RW        None                   06/20/89 16:02

Total Bytes      =     82k  Total Records =     623  Files Found =    5
Total 1k Blocks =      80   Used/Max Dir Entries For Drive A:   16/ 256
```

With time and date stamping enabled you can find out just when those files were altered, even if you don't know who did it.

name of your file. It makes a lot of sense to set your application software to Read Only in order to prevent it being deleted. Once set, even the command ERA *.* can't get rid of it. So, now you know how to prevent accidental erasure of your files; people can still read your text files, though, or run your COM files. How can you stop that?

One answer is to set your files to System status. This is something lots of software companies do. The Mini Office suite, for example, contains a lot of System files, as do the LocoScript discs (yes, even LocoScript runs under a modified version of CP/M).

Bucking the system

System files have a few strange properties. As far as CP/M is concerned, the most important is that a System file in Group 0 can be accessed from any other group. This isn't so important on floppy disc systems since few CP/M users work in other groups, but on hard discs it can be very useful. You can keep all your applications in Group 0 but work from less cluttered groups dedicated to particular activities - Group 1 for database work, Group 2 for word processing and so on.

The other important property of a system file is that it doesn't show up on a DIR listing, all you get is **System file(s) exist** which doesn't tell a snoop very much. You can set a file to both Read Only and System with the command:
SET FILENAME.TYP [RO SYS].

Read Only and System can be set on any file without running INITDIR first, which makes them suitable for everyday use. If you know the name of the file, you can still run it (if it's a COM file) or TYPE it (if it's a text file) with the normal commands; you just can't see it listed when you do a DIR. Still, you've given this file a great deal of protection, but is there anything else you can do?

Well of course there is; you can set passwords for your files. This is one of the things you can only do on a disc prepared by INITDIR. It's a two-part operation; first you have to enable password protection for the disc and then actually SET a password. Give the commands:
SET [PROTECT ON]
SET A:*.TYP [PASSWORD=BEANO].

You can use any of the wildcard commands for filenames, so passwords can be set for one file, all files of one type as above, or for all files on the disc using *.*. This is one of those things that really needs to be done sensibly; a single password for all files makes more sense than a different one for each file, after all, it can get very tricky getting at your files if you forget the magic word (but see the box).

Back-up a minute

Perhaps even more important than stopping other people getting at your files is making sure that you can always get at them. For some reason, probably because storing data to disc looks more like magic than technology, PCW users tend to have a touching faith in the reliability of discs. While it's true that they are far more reliable now than they were, a quick look through any CP/M library will reveal an awful lot of utilities for locking out bad sectors on early discs.

Treat a disc as reliable only if there's nothing you're relying on stored on it. A corollary of Sod's Law clearly states that a disc will fall over the moment it becomes critically important to you.

One way to make sure that you always have a backup of any altered files is to make use of the Archive attribute of a file, which can be turned on and off using SET. What you need to do is set all the files on disc to **Archive on** and then start off fresh by setting just those files you do want backed up to **Archive off**. Now when you use PIP to back up your files, just tell it to back up everything that's been altered using the Archive parameter shown. The whole sequence is shown below:
SET A:*.* [ARCHIVE=ON]
SET A:*.DAT [ARCHIVE=OFF]
PIP B:=A:*.*[A]
Now PIP will only copy the files whose Archive attributes have been turned off. You use this technique for the first back-up and then set all archive attributes to **on** again. Using the PIP command in future will only copy any files you've altered (since altering a file also turns its Archive attribute off).

Although this is a simple technique, you need to experiment to get the hang of it. It's worth doing. Setting up a system that makes backing up files automatic at the end of every day could just save you hours of work rebuilding lost data files. ■

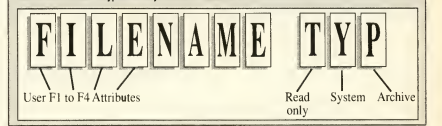
```
A)set a:*.* [ro]

A:NS       .COM  set to directory (DIR), Read Only (RO)
A:LOCO     .TXT  set to directory (DIR), Read Only (RO)
A:NSWP     .COM  set to directory (DIR), Read Only (RO)
A:SC2835   .SCR  set to directory (DIR), Read Only (RO)
A:OPENM835.SCR  set to directory (DIR), Read Only (RO)

A)dir
A: NS       COM : LOCO      TXT : NSWP      COM ; SC2835    SCR : OPENM835
A)
A)set a:nswp.com [sys]

A:NSWP     .COM  set to system (SYS), Read Only (RO)

A)dir
A: NS       COM ; LOCO      TXT ; SC2835    SCR : OPENM835 SCR
SYSTEM FILE(S) EXIST
A)
```

System files can be made accessible by using the DIR option with SET. All normal files have the directory bit unset and will be shown on screen when you do a DIR. They can also be moved, copied or deleted. Setting the file to SYS hides it.

Technical bit

When SET sets, what is it doing? Well, every character in the PCW is held as an eight bit binary number, but only the first seven bits are needed to define the character. The eighth bit is normally a zero but can be used as a flag. The three filetype characters can all have their high bits set and each means something different to CP/M as shown in the diagram.

As well as these, the first four characters can have their bits set for the benefit of the CP/M user or programmer. Since CP/M stores spaces in filenames, even if you don't type anything in you can set bits in the filetype even if you haven't used one.



Caveats

There are one or two things worth knowing about passwords; namely that only TYPE.COM and ERASE.COM seem to recognise them (if you know of any commercial programs that do, please let us know). Most programs faced with a password-protected file to load, simply report a BDOS error (number 15). Even CP/M doesn't appear able to cope with them. A password-protected COM file won't load, and CP/M doesn't even ask for a password, it just reports an error.

LocoScript reacts a little differently. It ignores passwords completely and will happily copy, erase or alter files thus 'protected', so if you do forget a password simply copy the file with LocoScript and the new version will be completely accessible.

```
A)set [protect=on]
Label for drive A:

Directory      Passwds  Stamp    Stamp    Stamp
Label          Read     Create   Access   Update
-------------  -------  -------  -------  -------
A:BEANO    .     on       off      on       on

A)set a:loco.txt [password=drongo]

A:LOCO     .TXT  Protection = READ, Password = DRONGO

A)erase loco.txt
A: LOCO     .TXT  Not erased,  Password Error
Password:
A: LOCO     .TXT  Not erased,  Password Error

A)erase loco.txt
A: LOCO     .TXT  Not erased,  Password Error
Password:
A)dir
A: CPM351   SCR : CPM352    SCR : NS        COM : ERASE     COM : SC2835
A: OPENM835 SCR
A)
```

TYPE.COM will erase a password-protected file - with the correct password. Your password isn't echoed to the screen

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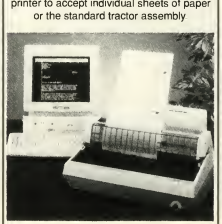

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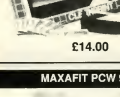

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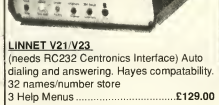

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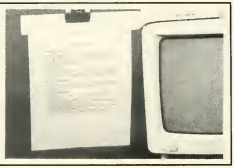

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Basil Pigg takes his seat on the jury and delivers a verdict

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DHCP 12-TRACK SEQUENCER SOFTWARE

£45.00 ● DHCP (0440 61207) ● All PCWs

One note samba, or slightly out of tune?

Unlike most computers the PCW has no sound chip, only a beeper pitched somewhere around B flat. With a little Basic program however you can persuade it to buzz instead at a variety of pitches and 'play' a melody, though the results sound not unlike a dying fly. Such a listing has appeared in 8000 Plus (issue 19, April 88, p72).

MIDI (Musical Instrument Digital Interface) makes your PCW into a music processor. Just connect a synthesiser to your PCW via a cable and a MIDI interface, which plugs into the back of your machine, and play a tune. The synthesiser will convert your tune into a series of digits, recording such data as each note's pitch, duration and so on. And, on more sophisticated synths, the 'velocity' of the keypress, enabling the volume of each note, and hence the interpretation, to be saved.

Basil Pigg transposes Saint Saens

Your PCW then stores the line of music you've just played on disc, as a stream of numbers, just as it stores your words in LocoScript as a stream of numbers. Now you can use the MIDI software to do various things like play the line back, transpose it up or down at the touch of a key, loop it so it plays repeatedly, play it back faster or slower and so on.

By playing this back and recording another line as you listen to it you can build up tracks which will play back together, building up an orchestra of sounds from each single line. Individual lines can be altered, so that if you find you don't like the bass part you've laid down on your demo tape, you can re-record it without touching the other lines. A boon for pop musicians and students fine-tuning their compositions.

Not all synthesisers are MIDI compatible, but most are nowadays (it will always say if it can work with MIDI or not). You can also get MIDI drum machines, guitars and horns, which are played in the same way as their acoustic counterparts, but produce their sound electronically; they hook up to your PCW just like those synthesisers. (The drum machines are good, the horns aren't bad, but a MIDI guitar can be excruciating to play.)

A MIDI interface allows your PCW to play your compositions through several instruments at once, making it an electronic conductor. You don't lift a finger – all your music has been keyed in line by line. If you have a multi-timbral synth, it can play several different instrument settings at once (one line in its drum setting, another in 'bass', another in 'flute' and so on); otherwise it will play all the different lines as the same sound (all flute, or whatever the synth is set to).

To make MIDI music you need a PCW – which you probably have already – at least one MIDI instrument, a MIDI interface, and MIDI software. Cables to link the lot up are available from the shop where you buy your synthesiser. There are too many synths to mention here; basically get the most expensive one you can afford, making sure it's MIDI compatible of course. Casio make lots of MIDI instruments, and the CZ 101 is still the favourite 'starter' synth (£230 or so).

Which leaves the interface and software. For the PCW owner there is a choice of two companies, each of which make a MIDI interface and software to manipulate your compositions: DHCP and EMR. How do they stack up? Both packages give you a single screen which shows you the state of the tracks currently in memory – whether they're set to play or not, whether looped, which channel (that is which output device – MIDI guitar, synthesised bass, synthesised flute for example) and so on. EMR can cope with 16 tracks, DHCP with 12, all of them polyphonic (more than one note at a time) if necessary. Both let you have tracks as long as your PCW memory will allow, and unless you are into ninety-minute symphonies you won't need to worry about this.

Both packages can cope with quite advanced instruments – ones with velocity sensitive keyboards to preserve your sensitive interpretations, for example. You also have metronome facilities onn both.

EMR's offering scores over DHCP's with its step time recording facilities. You can enter your tune at any old raggedy speed, some notes short and some long, and it'll tidy them all up and make them the same length.

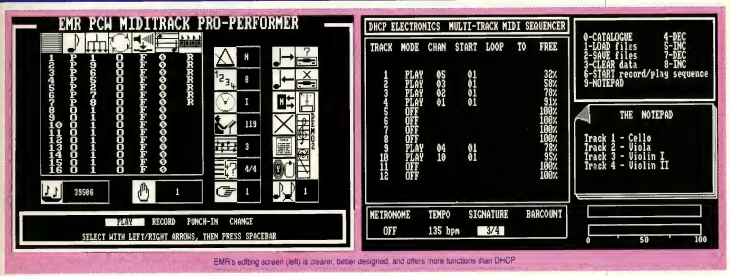
Looping can be done equally easily on both packages, making it possible to repeat various lines ad nauseam and thoroughly annoy your neighbours. A notepad is also supplied with each one, allowing you to record details of your compositions and to remind you who played what. Both have 'count-in' facilities, a sort of electronic 'one, two, one-two-three-four' to make your tracks start together.

Icon classed

EMR's screen is more carefully designed, with a range of little icons to brighten things up, and make them easier to

...RO, PLEASE

t o... two MIDI packages that can make your PCW make music



EMR's editing screen (left) is clearer, better designed, and offers more functions than DHCP

follow. DHCP displays your notepad constantly on screen for you. You move around both with the cursor keys and it's all single key press stuff. Both have a pleasantly logical way of doing things, though DHCP's error messages are rather unhelpful (having 'DISC ERROR' screamed at you when a track you ask to be loaded doesn't materialise isn't particularly enlightening).

Interface the music

EMR and DHCP both do MIDI interfaces, for £89.90 and £89.95 respectively. They plug into the expansion port in the back of your PCW, and have DIN sockets to connect your MIDI instruments into.

Both offer MIDI In and out plus MIDI through connection, enabling you to hook up to a separate unit which can control several instruments from the one socket. The EMR interface though has two MIDI outs and a connection for a a clock (metronome) device. DHCP, on the other hand, only has one.

The DHCP model is one box; EMR's is in two parts, one for all the in-out sockets and one to plug into your PCW, connected by a ribbon cable. It's much less awkward to change leads and hook up different instruments and doesn't run the risk of pulling the box off the back of the PCW as you do so. Both units have just a slightly flimsy feel about them but seem to stand up to normal wear and tear okay.

The DHCP interface is a perfectly good piece of kit, but the EMR one has more sockets and is better designed; it's even five pence cheaper. EMR wins hands down.

EMR PRO-PERFORMER

PLUSES
- ▲ Good manual
- ▲ Steptime recording
- ▲ Some editing possible
- ▲ Clear, icon-based screen
- ▲ Arrangements facility

MINUSES
- ▼ A bit more expensive than DHCP

8000 PLUS VALUE VERDICT 5

The more you use EMR's package the more it is clear how much the better of the two it is. DHCP allows no editing; if you make a mistake in a track, you just re-record the entire track. EMR however lets you record from a point just before that duff bit, making it rather easier to get a mistake-free version eventually!

EMR also lets you transpose lines, which DHCP doesn't, and its arrangement facility – the 'mixing' of different tracks together – is more sophisticated, allowing you to fiddle things better so that they are in time with each other.

Also, the manual with EMR's package is much better. While DHCP's is a six-page fact sheet, adequate for the experienced MIDI musician, EMR gives you a 40-page manual with plenty of information and hints – much better for the beginner or MIDI dabbler.

Although EMR is £15 more than the DHCP sequencer you'd be unlikely to go for the cheaper alternative. While DHCP is a perfectly good product – you'd be quite happy to get one for Christmas – EMR's package is better designed, offers many more features and is easier to use, more than compensating for the price difference. It was a long time coming out (the launch was one year later than expected.) but the careful preparation and thought behind it really shows – it's great fun to use.

If you own a PCW and want to make your home into an electronic recording studio, MIDI and EMR offer the ideal introduction.

DHCP 12-TRACK SEQUENCER

PLUSES
- ▲ Cheaper than EMR
- ▲ Tracks can be bounced to enable several tracks to all be put onto one
- ▲ Looping can start/ end at any bar, not just first-to-last
- ▲ Add-ons available for Casio and Korg synths

MINUSES
- ▼ Manual skimpy
- ▼ No steptime recording
- ▼ No editing possible

8000 PLUS VALUE VERDICT 4

The Tooleries

DHCP also offer 'toolkits' for the Casio CZ101, CZ230, and the Korg DW6000 synths (each £45). These help you manipulate the data when creating voices on the synths. EMR are talking about a music editor, enabling you to edit individual notes on your recorded tracks rather than having to re-record from the point of the mistake onwards, though it still looks months away.

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INFOFILE

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Anxious not to let the less intrepid data dabbler slip off the hook, Gentry Computing have come up with the ultimate disc-bound LocoFile tutorial. And indeed, it has much to recommend it.

The user is, for instance, unwittingly getting to grips with the knobs and handles of LocoFile at the same time that he or she is finding their way around the guide. Within five minutes of picking up the introductory literature (well, one sheet of paper, actually), you've already got a LocoFile database up and running (the guide itself) and successfully used the [f5] Goto menu to select the topic that you're interested in.

On the flip side of the sheet of paper, is an alphabetically-ordered printout of the topics included on the disc. Each topic constitutes a LocoFile record, and there are 53 of them all together.These range from learning how to change a card format to printing extracts. All you have to do is press [f5] and type in the name of the chapter (for want of a better word) you're interested in. The appropriate record appears on your screen and you can then flick backwards and forwards through the records as normal using the [ALT][PAGE] and [PAGE] keys respectively.

Gentry Computing state that their datafile provides more of a 'summary' of LocoFile's main features. Their claim is an accurate one. To find out how to create a datafile, go to the record entitled 'Datafile – creating' (funnily enough), and you will be presented with a typical LocoFile card on which a numbered sequence of unequivocal, no messing around, instructions outline your immediate course of action. For example: 1) Move cursor to group you want to store file in 2) Press [f1] to display Actions menu – and so on. At the top right hand corner of every card, however, there is a page reference number. This refers you to the LocoFile manual for fuller details.

Also supplied on the disc for you to emulate if need be are a number of datafile templates – datafiles for keeping track of birthdays, official addresses, membership records, recipes and computer discs to name but a few. You can see working versions of these on the B side of the disc.

Two READ.ME files make for fairly essential reading as they outline some of the thought processes that should be brought to bear before any datafile – regardless of what it's for – is created.

Will you, for example, be printing out whole records or extracts? Depending on your preference, don't forget to arrange your item names and data accordingly – and so on. These READ.ME documents take you through some of the planning that's gone into the setting up of the included templates. They also advise on inserting LocoScript documents into LocoFile datafiles, printing labels and printing in columns. Each procedure is amply illustrated with successful examples.

InfoFile represents good value for money; its main strength – as we've seen – lies in its ability to accustom the user to LocoFile without him or her realising it. The information is also very clearly and clearly presented. Unfortunately it suffers the usual disadvantages of all disc-bound user guides: you can't dip in and out of it on the train each morning in to work. On the other hand, it will provide a handy safety net which can be consulted at a moment's notice whenever working with LocoScript and/or LocoFile. ■

RANGE OF FEATURES 4
EASE OF USE 5
PERFORMANCE 4

8000 PLUS VALUE VERDICT 4

ANSIBLEINDEX PLUS

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As anyone who has had to wrestle with badly-organised documentation will tell you (and we have to hack our way through more than our fair share of it here at 8000 Plus), a good index is worth its weight in gold.

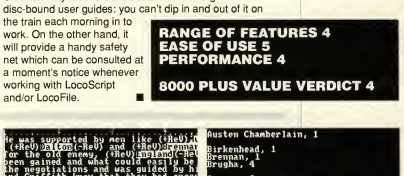
AnsibleIndex Plus is the upgraded version of the LocoScript document indexer that was first reviewed way back in the second issue of 8000 Plus (on page 16). It seems to have come a long way since then: there's a word counter included on the disc now, as well as a supporting program called GREASE (a diverting but mildly demoralising report on our – as in your or one's – use of words generally).

More importantly, perhaps, an automatic detection of which LocoScript format is being used has been built into the program, which makes it compatible with versions 1 and 2. New indexing facilities include distinguishing sub-headings, themes and cross references between entries.

As far as ease of use is concerned, AIX Plus is a delight. All you have to do is type into LocoScript the document that you want to index. Then pick out the words and phrases that you would like to include in the index by highlighting them using the Reverse video emphasis option (+RV and –RV). Save the document and run AIX.

The resulting index is automatically sorted into alphabetical order, each entry being accompanied by the page number(s) on which it appears. AIX can also produce a single index for a series of documents providing the number of the first page of the second file carries on where the last page of the previous one left off.

Not only can groups of words be indexed normally – for example, 'mutton pie.' They can also be easily inverted: 'pie, mutton 3, 4.' Sub-headings, which appear below the previous entry, slightly indented, are also presented in alphabetical order.



Highlight the words to be indexed (here the style codes are visible), run AIX Plus, and the index on the right results

In addition to this, AIX Plus allows three different kinds of subject indexing: themes, concurrent themes and master themes. Full details are provided in the manual.

Once your index has been compiled, you can list it to the screen before printing out. This is usually the best course of action to take, since if the index needs any editing (you may want to include words that didn't appear in your original document), now is the time to fine-tune it.

AnsibleIndex Plus does what it promises easily and cleanly with a host of fringe goodies to consolidate it's already considerable headstart.

The AIX Plus documentation is nothing short of excellent. It is light, lucid and refreshingly readable.

Our only query is, where's the index? ■

PERFORMANCE 5
RANGE OF FEATURES 5
EASE OF USE 5
DOCUMENTATION 5

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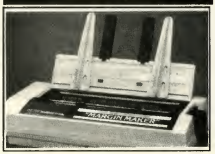

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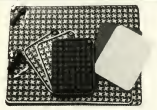

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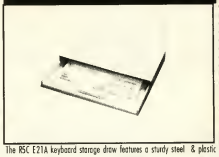

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SUMS AND SUBSTANCE

Sharon Bradley, a lady you can really count on, shows how to use the mathematical functions of Locomail.

It's true that LocoMail won't provide you with the perfect, all-purpose calculating machine that you can whisk out of your pocket at a moment's notice. Nor can it tame the kind of equations that would send Karl Gauss turning in his grave.

On the other hand, nobody would argue its ability to transform heavy-duty number-crunching – you know, the type that isn't particularly difficult but deadly dull to do – into a stroll in the park. All you have to worry about is feeding the correct commands into your LocoMail-compatible document so that the program can then press on with the gory bits with as little interference from you as possible.

Test results

When typing in arithmetic commands into your standard documents, it's often a good idea to try them out before you throw your real data on their mercy. Type in values that will hopefully produce a known result. Check that the result – along with concatenated symbols, decimal places and so on – is ordered properly on the page

The first point to bear in mind if you're thinking of putting LocoMail to any kind of arithmetical use is that the program can only cope with what we call 'true' numbers. This is a number which contains no text characters at all; 15.3 is a true number, for example, where 15.35% or £78 is not. As you can see, the full-stop, used here as a decimal point, is the only exception to this rule. This kind of information is known as 'numeric' information. If you attempt any kind of arithmetic with non-numeric information (that is, it contains text characters), LocoMail will immediately squeal one of those 'Type mismatch' error messages at you.

Ordered operations

The four operations that LocoMail can carry out are the standard ones: addition, subtraction, multiplication and division (the latter two being represented by the * and / signs respectively).

Any arithmetic you want to do must be enclosed within square brackets. For example:

(+Mail)[Cost_1+Cost_2+Cost_3](-Mail)

When working out the result of any arithmetical expression between square brackets, LocoMail observes the usual order of calculation.

First of all, it will work out all the multiplication and division and then any subtraction and addition. If, when you're combining operations like this in one calculation, you consistantly end up with complete codswallop for an answer, it may well be that you need an extra set of square brackets. Say you wanted to add together three values and multiply them by the going VAT rate. If you were to enter:

(+Mail)[Cost_1+Cost_2+Cost_3 * VAT_rate](-Mail)

Cost 3 would be multiplied by the VAT rate and then Costs 1 and 2 added to that result. Not quite the outcome you'd expected. Another set of square brackets are required to restore the correct order of calculation:

(+Mail)[[Cost_1+Cost_2+Cost_3] * VAT_rate](-Mail).

This assures that all the addition is taken care of first, so that the resulting total can then by multiplied by the VAT rate. You should end up with a sensible answer this time.

Apply within

The format you specify within any square bracket only applies to the arithmetic in that bracket. You can specify different formats within different sets of brackets, even if they are part of the same command

Decimal places

The largest 'true' number that LocoMail can cope with has 18 numbers before the decimal point and nine numbers after it. Type in a bigger number, and LocoMail will start beeping and treat it as non-numeric information. Similarly, minus signs will always – by default – be placed in front of a negative number.

Not surprisingly, these pre-determined formats are not always going to suit your personal requirements. If you're using LocoMail's arithmetical facilities for bulk invoicing, for example, your calculations are going to be pretty meaningless if the numbers you're using are allocated more than two decimal places. The good news is that you can specify exactly what format you want your answers to adopt.

Format modifications are introduced into your LocoMail commandments with the vertical bar sign. For example:

(+Mail)[Cost_1+Cost_2+Cost_3 | 2](-Mail).

This would ensure that the calculation is carried out and rounded to two decimal places. When it comes to VAT calculations, the standard practice is to quote to the nearest penny below the calculated amount. Put simply, any part of the number that comes after the second decimal point shouldn't concern you; whether it's above or below the number 5, you simply cut it off. This process is known as truncating to two decimal places.

To instruct LocoMail to do this, you insert an exclamation mark after the number that follows the vertical bar – like so:

(+Mail)[[Cost_1+Cost_2+Cost_3] * VAT_rate | 2!](-Mail).

Bear in mind, however, that LocoMail will automatically round values that it calculates. If you want truncated values, then you will specifically have to instruct the program to do it.

When creating your form document, it's sometimes useful to set up a decimal tab so that all the amounts owed will be positioned one below the other with the decimal points neatly aligned. To insert a decimal tab in LocoScript 2, press [f2] and select the **Change layout** option. Move the cursor to the point on the ruler line where you would like to fix the decimal tab, and press the [+] key three times. [EXIT] will take you back to the document.

Give or take a sign or two

As we've said earlier, LocoMail prints out all negative values with a minus sign in front of them. Another refinement you can make (if you prefer – it may not suit your needs), is to add a plus sign to positive values. This might come in handy if you want to emphasise credit values, for example. Failing that, you can just insert a space. At least this ensures that you're figures will sit underneath each other neatly.

To include a plus sign in your calculation, include a +

Show-case

Any kind of arithmetic must be enclosed within square brackets. There are, however, three different ways of incorporating your data into the document.

1) If you want LocoMail to carry out the calculation in the brackets and immediately insert the answer into the finished document, then you would insert a command like the following:
£(+Mail)[Cost_1+Cost_2+Cost_3 | 2](-Mail).

2) If you don't want to insert the result of a calculation into the document – merely store it as a name to be used perhaps further down as part of another calculation, use this command format:
£(+Mail)Total= [Cost_1+Cost_2+Cost_3 | 2]:total(-Mail)

3) To store *and* insert the result – probably the most popular option – use the following:
£(+Mail)Total:[Cost_1+Cost_2+Cost_3 |2]:total(-Mail)

immediately after the vertical bar in your command: '... | + 2]|(-Mail)', for example. To leave a space, include a minus sign instead.

Group theory

If you're handling very large numbers – like millions – you can choose whether to present the digits in groups of three or not. 250 000 000 instead of 250000000, for example.

This has the advantage of making them easier to read. Once again, you need to insert a specific character into your format command. The character that you use rather depends on whether you want to separate the groups of digits by a space or a comma. Insert a / after the vertical bar and you'll get a comma. Use a \ ([ALT] 1/2) to produce a space after every third digit starting from the right.

As we've seen, LocoMail can only carry out arithmetic on information that is unequivocably numeric. The chances are, however, that you will need – at some point – to incorporate some non-numeric characters into your calculations; if you're invoicing, then the figures you use are going to be financial amounts. The £ sign (or any other currency symbol, for that matter) is a text character; so is the % sign.

Joined-up writing

LocoMail, however, allows you to combine numeric and non-numeric information in the finished document, using a process called 'string concatenation'. While it may not sound a particularly pleasant process, it is actually very simple to put into operation.

Suppose you're a mail-order company wanting to work out an invoice, per customer, for various items bought over a set period of time. You may well insert a series of commands like the following into your master document:

July's purchases:
(+Mail)Total= "£" & [Cost_1+Cost_2+Cost_3 | 2]:total(-Mail).
Less VAT @ 15%:
(+Mail)VAT= "£" & [total*0.15 | 2]:VAT(-Mail)
Sum owed:
(+Mail)Sum= "£" & [total+VAT | 2]: sum(-Mail).

The first half of each instruction is telling LocoMail to carry out the calculation (within the square brackets) and insert what is enclosed within quotation marks (the currency symbol) in front of the calculated result. The ampersand is basically what 'joins' the two elements together. The second half of the command (after the colon) inserts the calculated result into the document itself.

Another way around this is to insert the currency symbol in the document itself outside the LocoMail codes. It's often easier and can look a lot less cluttered:

July's purchases:
£(+Mail)Total=[Cost_1+Cost_2+Cost_3 | 2]:total(-Mail).

You can combine or join together any pieces of informationlike this. It's exactly the same process that we used last month (see Planning a Merger, page 37) to combine two or more separate items (both non-numeric, in this case) to give a single piece of information:

Dear (+Mail)Salutation = Title & " " & Surname: Salutation(-Mail).

The ampersand joins information, it doesn't add them. 5 & 4, for example, would become 54, not 9. ■

Vertical hold

If you use a PCW 8256 or 8512 you may be wondering how to produce the vertical bar sign that is used to format your answers. is produced by simultaneously pressing [EXTRA] and " squiggle The 9512 already has it displayed on the keyboard

Times slot

This box shows just one of the arithmetical uses to which you can put a LocoMail loop. At the disc management screen, select the file with the cursor, and press the [F] for Fill key. The following loop appears on the screen, the first line of which prompts you to key in the number of the particular times table that you would like to see calculated and displayed. Once you've typed it in and pressed [ENTER], away it goes.

The hash sign on the first line ensures that only numeric information can be typed in here. Enter 2 to see the two times table, 7 to see the seven times table and 106 to see the 106 times table. The way this program currently stands, however, LocoMail will not calculate any times table beyond 12: (+Mail)#table > 12:<:"">(-Mail) is instructing the program not to go ahead with a pass if the number you enter is greater than 12.

The loop itself is enclosed within quotation marks and doesn't begin until the fifth line. The third and fourth lines of the program define the syntax that it will use. Initially, Num is assigned the value of 1 – (+Mail)num=1(-Mail). Each pass through the loop increases this value by 1, until 12 is reached – (+Mail)num=[num+1](-Mail) (+Mail)# num=13:<:num=0>:(-Mail).

The penultimate line of the program instructs LocoMail to abandon the times table as soon as 13 is reached.

```
A:GROUP0  /MULTIPLY.MAS  Editing text.                    Printer idle.  Using A:
Layout    1  Pi12   LS1   CR↵    LP6                                  Page   1  line  1/54
f1=Actions    f2=Layout    f3=Style    f4=Size    f5=Page    f7=Spell    f8=Options    EXIT
(+Mail)#table;which table would you like(-Mail)↵
this is the (+Mail)table(-Mail) times table↵
(+Mail)num=1(-Mail)(+Mail)x=" x "(-Mail)(+Mail)eq=" = "(-Mail)↵
(+Mail)# table>12 :(:#:)(-Mail)↵
(+Mail)loop"(+Mail)num:x:table:eq:(table*num)(-Mail)↵
(+Mail)num=[num+1](-Mail)(+Mail)# num=13:(:num=0:)(-Mail)"(-Mail)↵
(+Mail)%loop2num(-Mail)↵
```

The LocoMail loop that automatically calculates your times tables for you! Highlight the file-name with the cursor at the disc management screen and press [F] for 'Fill'. You will then be prompted to enter, from the keyboard, the number that you want to see multiplied. Enter the number of your choice, press [ENTER], and away you go.

```
A:GROUP0  /MULTIPLY.MAS  Fill document.                   Printer idle.  Using A:  M:
Layout    1  Pi12   LS1   CR↵    LP6                                  Page   1  line 19/54
f1=Actions    f2=Layout    f3=Style    f4=Size    f5=Page    f7=Spell    f8=Options    EXIT
        12↵
        This is the 12 times table↵
        ↵
        ↵
        ↵
        1 x 12 = 12↵
        2 x 12 = 24↵
        3 x 12 = 36↵
        4 x 12 = 48↵
        5 x 12 = 60↵
        6 x 12 = 72↵
        7 x 12 = 84↵
        8 x 12 = 96↵
        9 x 12 = 108↵
        10 x 12 = 120↵
        11 x 12 = 132↵
        12 x 12 = 144↵
        ↵
                                          ▶ Edit result
                                            Save result
                                            Discard result
                                            Abandon LocoMail
```

This is what the finished result should look like. Depending on how you have set up the initial loop, you will be able to enter any number you like. The fourth line of the loop says 'If the number that you enter is greater than 12, do not carry on with the pass.' All you have to do is alter the number simply by typing in another value. The line could just as simply read, 'If the number entered is greater than 106, do not proceed with the pass.'

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FIGURE SKATING

Small business book keeping - Tim Nott attempts a balancing act

Quids in

The three great mysteries of SuperCalc are how to print a pound sign, how to display a date in English, and what is in the black box.

Pound signs can be enabled on both screen and printer by the use of LANGUAGE.COM and SETKEYS.COM, which are to be found on the CP/M master disc. Copy these to your SuperCalc boot disk. A key definition file, called, say, KEYS.SC2, containing the line 5? $ ^E" must also be present on the disc. The commands to type, or get PROFILE.SUB to type for you, are LANGUAGE 3 followed by SETKEYS KEYS.SC2.

In a well-organized business, good book-keeping is essential. Money received and cheques written are recorded at the time of the transaction. But perhaps your business is one of the other 98%. In these the trouser pocket or handbag is used as a combined filing system and petty cash box, and at the end of the month, the books consist of a bank statement, some barely decipherable cheque stubs, and a pile of receipts. Looks like a job for SuperCalc.

Business is booming at Minute Mansions. Helped, no doubt, by the estimating program constructed last month, orders have been flooding in for your bespoke dolls' houses. Your order book is full, your bills are paid: everything looks rosy.

But what about that large mound of paper covering most of the desk? Below this heap of receipts, bank statements and so on, lurks a VAT return. All they want is to know how much VAT you have paid and how much you have charged. Subtract the former from the latter and a cheque for the difference would oblige. By tomorrow.

The difficulty lies with producing these two figures. Whereas the income from your sales consists of infrequent large dollops, your expenditure is more complicated. Some of it is in cash, some by cheque, some by standing order. Some carries VAT, some does not. Additionally, it is useful to analyse your spending - how much goes on materials, how much on wages, advertising, or transport.

Casually, you break out a new CF2 disc, write 'Bankbook' on the label, and proceed to make a SuperCalc start-of-day disc as you did for the estimating program (issue 34). This time you leave out DATTIM.COM, and omit the corresponding line from the PROFILE.SUB file. You boot it up, and your friends A:I and 1:27 leap to the screen.

You are going to create a spreadsheet to record and analyse your bank expenditure, so set up some headings as in the picture, rows 1:7, and footings as in rows 25:27. Columns A:C are formatted to 3 characters wide with the command /FC A:C [RETURN] 3. Column F is 13 characters wide, and column E, which appears to have disappeared is but one column wide, and serves only to separate columns D and F. Columns G and H are 4 characters wide. The text in cells D4, I4:M4 and A5:C5 is right justified, with the command /FE D4 [RETURN] TR [RETURN] and so on. A cell by cell listing is shown separately.

More expression

When the spreadsheet is completed, the data will be entered in columns A:D and F:H, SuperCalc performing its magic in columns I:M. The "Date", "Amount" and "Payee" columns are self-evident, but "Cat" and "Vat%" need some explanation. Under "Cat", you would enter a number corresponding to the headings in columns I:L. So, if a particular payment is for a load of tiny bricks, this is for supplies and the number 1 should be entered. Similarly, rates paid to your local council would be an overhead, hence 2, garage bills 3 and cash withdrawals 4.

Under "Vat%" you would enter the number 1 for standard rated items, such as the tiny bricks, or 0 for zero rated items such as rates or cash withdrawals.

Now for the formulae. In cell I8 enter the formula IF(G8=I3,D8-M8,0). The SuperCalc IF function works in the following way. The expression between the opening bracket and the first comma is tested, and if true, the formula between the first and second commas is used; if false, that between the second comma and closing bracket is used. So in this case, IF the number entered in G8, under "Cat" is the same as that already in I3, namely 1, THEN the value of D8, the amount of the payment, less the value of M8, the amount of VAT, is displayed in the cell. If the two numbers are not the same then zero is shown instead - the transaction does not fall into this category.

In cells J8 and K8 enter the corresponding formulae IF(G8=J3,D8-M8,0) and IF(G8=K3,D8-M8,0). The formula in L8 can be simpler, as there will never be VAT on a cash withdrawal - IF(G8=L3,D8,0).

The formula in cell M8 will decide if VAT is chargeable and if so, calculate it. IF(H8=1,ROUND(D8*15/115,2),0) is the appropriate incantation. This tells SuperCalc that IF the number 1 is in cell H8, that is, in the Vat% column, THEN work out the VAT element of the total amount, which is 15/115ths of whatever is in D8. If not, the VAT is zero.

Roundly wrong

What about the ROUND? Astute readers will have noticed that last month's example spreadsheet was a penny out, despite the boast that SuperCalc never gets its sums wrong. Well it didn't. The right hand column was formatted to money format, truncated to 2 decimal places, to get rid of all the fractions of a penny. However, this only affects the display, not the actual values in memory. Hence all

```
   A:B:C:   D   ::   E   ::  F:G: H:   I   :   J   :   K   :   L   :   M
 1:Page  ********** Minute Mansions- Bank expenditure **********************
 2:
 3:                                                  1         2         3         4
 4:Date        Amount Payee          Cat Vat% Supplies  O/heads  Vehicle      Cash      Vat
 5: DD MM YY
 6:B/F
 7:
 8:  3  7 89    45.87 Tingbrix Ltd     1   1     39.71                                   5.96
 9:  3  7 89   100.00 Cash              4   0                                100.00
10:  5  7 89   134.87 Rates             2   0           134.87
11:  7  7 89    17.67 Noddy Garages     3   1                     15.37                2.30
12: 10  7 89   108.45 B Telecom         2   1            94.30                        14.15
13: 10  7 89    32.40 Miniply          1   1     28.17                                   4.23
14: 12  7 89   777.83 Bank charge       2   0           77.83
15: 12  7 89   144.66 Bank interest     2   0          144.66
16: 15  7 89    83.40 Cupwufur PLC     1   1     72.52                                  10.88
17: 21  7 89   250.00 Cash              4   0                                250.00
18: 24  7 89   153.80 Shark Ins. Co     3   0                     153.80
19: 26  7 89    58.00 OsborneLittle     1   1     50.43                                   7.57
20: 28  7 89   220.00 Cash              4   0                                220.00
21:  1  8 89    55.42 Stiglu Ltd        1   1     48.19                                   7.23
22:  1  8 89    98.76 Will's Wood       1   1     85.88                                  12.88
23:  3  8 89   100.00 Van Tax           3   0                     100.00
24:  3  8 89   141.02 Elec. Board       2   0          141.02
25:
26:Totals      1021.95                          324.90   592.68   269.17   570.00    65.20
27:Spl check  Total OK
 D27:          Form=SUM(I28:M28)
Width: 8  Memory: 65 Last Col/Row:M27     ? for HELP
 1)
```

This is how the example accounts spreadsheet should look when finished.

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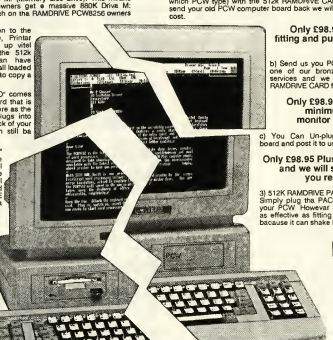

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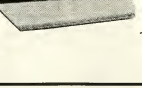

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Hire a PCW and get £10 off your repair!

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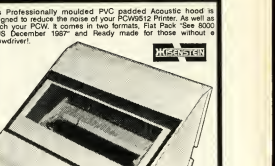
HERE IS HOW YOU CAN!

This Professionally moulded PVC padded Acoustic hood is designed to reduce the noise of your PCW9512 Printer. As well as match your PCW. It comes in two formats, Flat Pack "See 8000 PLUS December 1987" and Ready made for those without a screwdriver!.



THE PCW 9512 ACOUSTIC HOOD

AS9501 (PCW9512 Acoustic Hood Flat Pack)	£37.95 + vat
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Un-plug the heater will you ....*Sorry wrong one! too late your work has all been lost! ...or has it?*

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Program now

This is a blow by blow listing of this month's spreadsheet. SuperCalc can produce such a listing by telling it to output the contents, rather than the display, of the spreadsheet, and will do so to screen, disc, or printer; now all you have to do is type it back in.

```
A1 = "Page
C1 = 0
D1 = " :single quote for repeated text
F1 = " Minute Mansions- Bank expenditure
K1 = "
A2 = '-
I3 = 1 ;no quotes-these must
J3 = 2 ;e entered as numbers
K3 = 3
L3 = 4
A4 = "Date
D4 TR = "Amount ;TR means this text
F4 = "Payee ;is right justified
G4 = "Cat
H4 = "Vat%
I4 TR = "Supplies
J4 TR = "O/heads
K4 TR = "Vehicle
L4 TR = "Cash
M4 TR = "Vat
A5 TR = "DD
B5 TR = "MM
C5 TR = "YY
A6 = "B/F
A7 = '-
I8 = IF(G8=I3,D8-M8,0)
J8 = IF(G8=J3,D8-M8,0)
K8 = IF(G8=K3,D8-M8,0)
L8 = IF(G8=L3,D8,0)
M8 = IF(H8=1,ROUND(D8*15/115,2),0)
I9 = IF(G9=I3,D9-M9,0)

And so on, through to row 24:-

I24 = IF(G24=I3,D24-M24,0)
J24 = IF(G24=J3,D24-M24,0)
K24 = IF(G24=K3,D24-M24,0)
L24 = IF(G24=L3,D24,0)
M24 = IF(H24=1,ROUND(D24*15/115,2),0)
A25 = '-
A26 = "Totals
D26 = SUM(D6:D24)
I26 = SUM(I6:I24)
J26 = SUM(J6:J24)
K26 = SUM(K6:K24)
L26 = SUM(L6:L24)
M26 = SUM(M6:M24)
A27 = "Col check
D27 = SUM(I26:M26)
```

those tiny fractions got added into the total, which caused the apparent imbalance. Any money calculation that is likely to produce a result stretching to more than two decimal places, such as division, should have its result rounded. ROUND(expression, number of decimal places) does this job.

The next task is some heavy duty replication. You are going to replicate the formulae you have just entered in row 8, into rows 9:24 in one hit; so fasten your seat belt.

Type /R, followed by the range of cells you wish to replicate from, I8:M8 [RETURN], then the range of cells in the left hand column of the block you wish to replicate to, I9:I24. Do not press [RETURN], but choose "Options" by typing a comma. Type A for "Ask for adjust". Each cell reference in each formula will be shown in turn, highlighted on the input line, and you will be prompted as to whether you want it adjusted (Y/N). Answer Y(es) to everything except I3,J3,K3 and L3 - these must remain constant. When you have finished this little questionnaire, SuperCalc will fill in all the formulae from I9 to M24.

The only formulae still to enter are the totals. In D26 enter SUM(D6:D24). Replicate this into the other columns with /R D26[RETURN] I26:M26[RETURN]. In D27 enter SUM(I26:M26).

Summing up

Try entering some data now. The first thing you'll notice is that SuperCalc stops after every entry for a think. This is the auto-recalculate feature that lets you see at a stroke what changing one figure will do to the rest. Turn it off by typing /GM, for Global, Manual. Enter some more data, and you will find progress is much faster, as SuperCalc will not recalculate, unless forced to by typing an exclamation mark.

Try this. If all has gone well you will see several errors. Don't panic. This has happened because SuperCalc, calculating in an orderly manner from left to right, has deducted the VAT before working out what it should be. Typing another exclamation mark should set matters right. If not, still don't panic. If the figures in cells D26 and D27 do not agree, then you have either entered an illegal number or no number at all under "Cat", or tried to extract VAT from a cash withdrawal. The "Column check" is designed to monitor such transgressions. If this still doesn't do the trick, then do panic, as you have got a formula wrong somewhere.

Now for a few refinements. First set up a "user defined" format by typing /FD. The spreadsheet will disappear, and a grid showing seven options for each of eight formats will appear. You can jump around this with the arrow keys, but in this case only the first column will be used. Set everything off by typing N, except for the "zero as blank" option - type Y for this. Set decimal places to 2, and scaling factor to 0, if these are not already so. Press ALT+Z to return to the spreadsheet.

Format column D to your new defined format by typing /FC D[RETURN] U1[RETURN]. Format columns I:M similarly with /FC I:M[RETURN] U1[RETURN]. All the zeros will vanish, and all the figures will appear as pounds and pence - 100 becomes 100.00. This has the unfortunate side effect of making your category headings 1.00, 2.00 and so on, so restore these to normal by formatting row 3 to integer format with /FR 3[RETURN] I[RETURN].

Empty windows

One thing remains to be done before saving your work. Blank out all your dummy data with /B A8:H24[RETURN] and force a recalculation twice, (!!). Now save your spreadsheet, remembering the all-important drive letter.

When you come to use your spreadsheet, fill in the appropriate data from your bank statement and cheque stubs, and when you reach the bottom of the page, force two recalculations, and save it. Take a printout with the output command, by typing /OD(isplay) ALL[RETURN] P(rinter). Note that unlike most SuperCalc commands, the word "ALL" must be typed in full. For a more professional look you can type /GB before printing, which toggles the borders on and off.

To start a new page, first carry forward the totals. You want to copy the values, but not the formulae, in row 26, to the top of the next page. The copy command will do this, and the command is /C D26:M26[RETURN], the range to copy from, followed by D6, the left hand cell of the destination, then a comma, then V. Now you know what B/F stands for, and why the SUM formulae in row 26 started with row 6 rather than row 8. Blank out the rest of the data as before, enter a new page number and off you go.

NEXT MONTH

Next month we will see how SuperCalc can help with PAYE. We will also discuss some refinements to the spreadsheets, such as protecting the precious formulae from being trodden on by heavy handed data entry, and breathing intelligent life into the aptly named cursor.

Growing Up

The example spreadsheet shown here has been deliberately kept to a screenful - obviously more categories would be useful, as would a longer page. The only limitations are memory and paper size. A spreadsheet size of 55 rows by 132 characters fits comfortably on 11" continuous paper, and the headings can be prevented from scrolling off the screen by putting the cursor on the lowest line that needs to stay put and typing /TH, for Title Horizontal lock.

MINDING YOUR

Capital Communications won the Industrial Editor of the Year award us

Michael and Marion Hardman founded Capital Communications, a London-based public relations firm, four years ago. They started from home but now work from a plush office in central London and, according to Michael Hardman, have a turnover round the hundreds of thousands mark.

Capital Communications handle the public relations for various organisations, (recently they secured the account for The National Society for Epilepsy). The account which won the National Industrial Editors' award for the Hardmans, however, was that of Youngs Brewery, or to be more exact, Ram News, the brewery's internal magazine.

Ram News, a quarterly magazine with a print run of 13,000 is now easing into its third year. In the words of Michael Hardman, whom we interviewed shortly after he received his award, it relays information about "..interesting characters, people winning awards, people retiring, people joining....", basically the life of a thriving company. The magazine's readership is comprised of three distinct sections: the Youngs shareholders, the staff of the brewery and people who frequent those pubs which stock the beer. In this latter case the cover price of 20p goes straight to charity.

Two PCWs, an 8256 and 8512 are used to produce Ram News and its two sister journals. The original 8256 was bought about three and a half years ago as a replacement typewriter.

After conquering LocoScript, the Hardmans became curious about the PCW. Michael relates the story: "I started dabbling about on the other side of the disc, as it were, with CP/M. At first I couldn't make head nor tail of it but eventually I cracked Basic and began writing very simple programs. Since then I've written a complete accounts suite which I still use for the company's finances. Basically, I did all this to learn more about the PCW and I must say it taught me a lot. I'd known nothing whatsoever about computers before, and it rather opened my eyes. I realised that it had more potential than a simple super electronic typewriter."

Special treatment

With the formation of Capital Communications came a PCW 8512 and a stroke of good fortune. Michael continues, "Through a friend of a friend of a friend I found out that a company called Typeshare had devised some software to run on the PCW. It cost around £200 and was called Amset." This piece of software is, at its most simple, a typesetting system. Having worked on the production side of publishing for twenty seven years Michael Hardman found that Amset, "...seemed an easy system, a very easy system, and I used

RAM News - flying the banner for Capital Communications

it without any trouble, I tell into it. There were a few bugs at first but they were sorted out. I have been in very close contact with Typeshare and have made a lot of suggestions which have since been incorporated into the program."

The Ram by the horns

While at Capital Communications Michael took us through to the production room in order to demonstrate Amset. CP/M was booted up on the 8512 while the 8256 and another member of the staff called Diane proceeded to get on with the accounts. Using Flipper the Hardmans are able to swap text from LocoScript 2 over to Amset without juggling discs. So far so good. Michael worked through a few pages, explaining at high speed. Obviously the user and the system were well used to each other.

Asked to slow down, he began again: "Amset is not a what-you-see-is-what-you-get system, like Stop Press. You have to keep track of what you are doing on templated pieces of paper which are laid out in nine point lines and have either three or four columns for width."

What actually happens is this: using LocoScript the writer creates the basic story or maybe press release. Instead of entering the familiar [+**Bold**] or [+*Italic*], a set of typesetting phrases are loaded into the Settings.std file. These can be pasted in where required. Instead of pressing [+] and [B] (for Bold) Michael would merely paste **B**. This also enables him, for example, to enter different fonts by pasting **F** followed by a number. Although these do not show up on screen they are received and understood by Amset.

The phrases Michael uses are in fact

It's my ball, so there!

The name Amset caused a frisson of unease to run through the offices of Amstrad. Readers should actually read PCset not Amset, or so Typeshare tell us. It seems that the 'Am' in Amset worries the well-known Brentwood based company. Wonder whether they visit PCderdam in Holland or even PCbridge with the Archers?

Recherchez le temps perdu

Before Ram News both Michael and Marion were professional Fleet Street journalists. Michael, who comes from Lancashire, began his career in 1962. Since then he has worked on the old London Evening Standard as a news sub-editor, the Birmingham Post as chief features sub-editor. Most recently he worked for the BBC on their parliamentary staff as a chief sub-editor. Marion worked for Evening Standard as a reporter.

While Marion worked as a news hound, Michael made his mark on the production side of journalism. Getting to know his trade stood him in good stead when it came to telling Typeshare exactly what he wanted from the Amset program. According to Michael his knowledge comes from a great deal of practice combined with a natural enthusiasm.

The Hardman's took a chance with two PCWs, a piece of software and a lot of enthusiastic application and now, looking at the Baker Street office, Michael can say, "It's not bad really, is it?"

R OWN BUSINESS

ward using two PCWs and a lot of hard work. Tim Smith finds out how

A B RAM NEWS March 1989 7

DRAY BY DRAY

C

Alan Goble enjoying a half of her favourite Young's bitter on her 100th birthday

E A century on bitter

A BILL GOBLE celebrated her 100th birthday in style — with a glass of her favourite Young's bitter at the Black Horse in Gunshall, Surrey.

Mrs Goble's family reckoned she deserved a special cuting on her big day, and as she likes a drink or two, a good pub lunch seemed the ideal choice.

Mrs Goble lives in Bolney, near Brighton, but her family are scattered about, so grandson Robert, from Woking, settled on the attractive oak-beamed Black Horse as a central gathering point for the clan.

Licensee Tony Sevage came up trumps with a framed picture of the pub, dated about 1907, for Mrs Goble to keep alongside her telegram from the Queen.

D FROM council rent office to public an might seem a strange career move, but to Linda Ellis who, with her husband Bill, has just taken over the tenancy of the Lord Nelson in Lower Road, Sutton, it was the most natural step in the world.

Linda grew up in pubs — and Young's pubs at that. Her parents, Stan and Marge Haley, have kept the Dog and Bull in Surrey Street, Croydon, for 12 years and were previously at the King's Head, in Colliers Wood High Street.

Brother John and his wife Jeannie have also followed in the family footsteps, becoming tenants at the Bricklayers Arms, in Dartmouth Road, Sydenham, last June.

Linda said: "Bill used to work with dad, and it's always been our intention to have a pub of our own. We've been on the look-out for the sort of place we'd like to stay, and we think we've found it here. It's a nice, friendly, family pub."

G ALAN MATES, a regular at Young's farthest-flung pub — the Fountain Inn at Plumpton Green, East Sussex — travels the world as part of his own wellight controller at Gatwick Airport.

He's come across some surprising sights on his sources, but for a splendid one the discovery of his favourite Arms, Ram Rod, in the remote north east of the United States.

Young's beers are, of course, going well across the Atlantic, but Alan was amazed to find Ram Rod readily available in such a place as Bar Harbor, a small town on Mount Desert Island off the coast of Maine.

He bought his Ram Rod at a liquor store called the Pharmacy, which boasts that it is a "supplier of world-class beers".

And according to Alan, that's just what Ram Rod is world-class.

Trouncer

F

Young's beer in faraway places. Alan Mates with bottles of Ram Rod on Mount Desert Island.

The Haley dynasty outside the Lord Nelson. Left to right: Linda and Bill Ellis, Marge and Stan Haley, Jeannie and John Haley.

Software with a hard centre

The sample page shows what Amset can do. Its large library of macro commands and type styles (fonts) enable it to transform simple text into a high quality publication. What follows is a brief key to the page illustrated above.

A The main or 'body' text is given a 36 point gap from the edges of the page. Characters in the body text are taken from a basic size of nine points. All headlines are in multiples of nine to give a consistent feel.

B The words 'Ram News' are set with the following commands: Paste H(for height) 2 (points). Paste F13(for font number 13, in this case Times Bold). This comes from a library of 1000 fonts. Paste P 12(twelve points in size), slightly larger than main (body) text but not big enough to clash with the headlines.

C The main headline is set in a new font, this time Paste F11 for Schoolbook Roman. To give it emphasis it is in 54 point with a height of 24 point. There are then three carriage returns before the large A.

D The three enlarged letters come from a macro which gives not only the point size and height but the spaces around the letter. This allows the software to put the desired amount of space around an enlarged letter.

E To create the headline, the point size is changed to 48 and the font is shadowed. Amset allows various types of justification. Here, the words are centered within the column width. A gap of three carriage returns is left before the bar is added by means of another macro.

F The photograph and logo are pasted in after the bromides (sheets of photographic paper ready for printing) are returned from Typeshare. Before this two boxes have to be created within the text. Amset do this easily. You provide the width (in columns), the height (in lines) and the gap size between the box and body text. Another of Amset's macros will do the rest.

G Finally, you can never get open quotation marks with the PCW keyboard as it stands; you're stuck with closed quotes. With Amset it is simply a question of Pasting Q, for quotation, before typing your text.

macro commands which can be understood by Amset and hence by Typeshare when the time comes to print the final product. A macro, in this situation, is a command or set of commands which can be invoked by a single key press. Several macros are used while making up a single page as you will see from the sample page.

When a page is finished and checked for typing errors, it is saved as an Ascii file and Flipper is invoked. Once in the new environment the Ascii file is formatted for Amset. A page of Ram News may be broken up by a number of boxes for photographs, headlines, and even a crossword; all this is handled by Amset from instructions typed in LocoScript.

It is Amset's job to take the codes which were used during the LocoScript phase and produce page layouts. These pages are then taken over to Typeshare on disc and reproduced in the form of bromides. Once this has been achieved the bromides are returned and the necessary photographs, additional typefaces or headlines are pasted in by hand. Everything is then ready for printing.

The page of reason

Michael explained his fondness for the PCW as follows, "In the old days of hot metal you had to trust to luck. Then the printer would rush up from his metal setting machine and say that this or that doesn't fit. So you had to think of something else, and then trust to luck....not any more though."

Such praise does not fall lightly from the manager of a firm which uses its machines every day of the week to produce high quality material and win national prizes. It all goes to show what can be done with a little curiosity, a lot of hard work, a well chosen piece of software and two PCWs. ■

Type casting

Typeshare, the company set up by Des Whetter, a man with twenty years' experience in the typesetting field, offers a wide range of facilities and a professional finish. They will take work from PCW discs. At the top of their range is an interactive on-line system with a special keyboard supplied called FST or Flexible Software for Typesetting.
Typeshare can be contacted on (01)405 7937.

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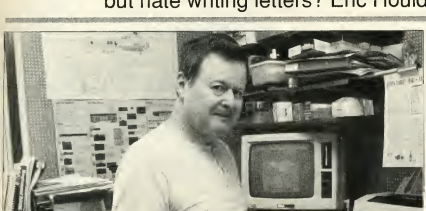
FAMILY MATTERS

You'd like to tell distant friends and relatives all the news but hate writing letters? Eric Houlder has the answer.



My 8256, The Desktop Publisher and me: together we produce the annual newsletter with a difference.

One of the problems about having relatives and friends in all parts of the country, or even the world, occurs regularly every Christmas. Feeling duty bound to pen a few words of family news to go inside the card, you realise that it's one of those jobs that's worth doing well if you do it at all, and before you know it, you've embarked on a major project.

Some years ago, we received a photocopied, hand written letter from some friends who had migrated to Southern England; this set me thinking and eventually I unashamedly stole the idea. Since we already had a PCW, I thought that if nothing else I should be able to improve the presentation of the idea. The first effort was simply a draft quality printout of a letter written in LocoScript 1. This, we slipped into the relevant Christmas cards. With justified right margins it didn't look bad at all.

The following year I acquired The Desktop Publisher. Though this is the least sophisticated of the DTP programs available for the PCW, I had already found it to be perfectly adequate for the newsletters of two local clubs and for producing reports on archeological excavations. It seemed logical to produce the annual family newsletter on it.

In common with all DTP programs, The Desktop Publisher will accept Ascii text from any word processor program, so you can prepare all the text with a word processor, spell check it and count the words, before actually inserting the text into the DTP program. A good idea at this point is to save each paragraph as a separate file (letter1.asc, letter2.asc and so on).

Putting on the style

During this stage I decided on the basic layout, a simple two column affair with illustrations inserted as appropriate. In order to get the maximum amount of information onto the page, I selected Condensed, which is much the same as 17 pitch in LocoScript. The Desktop Publisher doesn't allow text to be flowed around pictures, so although most of the text was inserted from the prepared Ascii files, I left some linking pieces to be typed straight in.

One of the biggest advantages of DTP is having a choice of fonts and illustrations. I chose Limelight capitals for my headings, placed the whole lot in a scroll and gave some thought to the illustrations that we'd need.

Since the family holiday was the highlight of the year, it made sense to include a map of France showing our overnight halts. I had to draw this myself, and when completed, made it stand out from the page with a shadow effect on the box. A picture of a frame tent came in useful to show our holiday accommodation while other illustrations were chosen from among the clip art supplied (and some purchased via advertisments in 8000 Plus).

When it was all finished I printed off a copy in NLQ using a fresh ribbon to get the best possible impression. It was at this stage that a decision had to be made about the method of producing the number of copies needed.

The cheating kind

In the end it seemed better to cheat a little and have the single NLQ sheet photocopied; I needed 30 of them so it made a lot of sense. So, by the beginnning of December I was ready to begin sending out the newsletters in the Christmas cards.

The people who get the newsletters are those with whom we are only in irregular contact, but with whom we don't want to lose contact completely. Feedback has been very favourable on the whole. I shall certainly be continuing with it, and hopefully, improving on it a little every year. ■

THE FAMILY YEAR 1988

1988 was a traumatic year for the Houlders in many ways. Not only was this Sarah's GCSE year, but Jane found that she needed another operation, and Edwin's first book was launched. Matt entered the fourth year at school, and began planning for the first term at Poppy.

Early in January we at last parted with our much-loved Vauxhall Cavalier, certainly the most reliable car we have ever had, particularly as for a 1.8 litre Carlton. This gives us more space both for Jane's teaching materials and books, which fill the bootlid and for Sarah and Matt who both continue to grow.

Edwin's first book, *Lone Wrestling For Beginners*, was launched at the British Lone Association conference in Scunthorpe towards the end of March, as one of the guest speakers he was able to give it a good plug! By coincidence, his first article in a Jeweller magazine hit the bookstalls on the same day.

Only a fortnight later, Sarah departed for her now annual Skiing holiday in Courmayeur, in Northern Italy, whilst the rest of us drove down to Elspeth & Bill's for a few days during which Edwin delivered his lecture to the Himalayan Small Mammal Society.

The Summer Term was a time of frenzied revision and the rapid completion of the dropped Development Work for Sarah and all her friends. The actual exams were not as bad as we expected, the worst part being the long wait for the results.

On August 8th we all departed for our annual holiday. Sailing from Portsmouth to Cherbourg overnight, we then drove South, halting for a picnic breakfast at Dreux. The weather, which had been very wet up to now, began to brighten up in the afternoon, and it was very hot and sunny by the time we stopped for the night at the Hotel Campanile Auberge Mont. The following day was spent speeding southwards until our arrival at St.Jory-Gouler just on the French side of the Spanish border in the High Pyrenees. The campsite was excellent, our pitch being alongside the picturesque river Hosta. We visited most of the beauty-spots including Lourdes, rode a Bateaux raft down the rapids, getting soaked in the process, visited the local markets, ate out a lot, and generally relaxed.

We left for home very early one morning, intending to spend a few hours with Elspeth Bill and the children who were staying in a gite near Riez in Provence in the Loire Valley. After much enquiry and driving around, we found them and spent several hours chatting and eating. Later we drove through Tours and spent the night in an hotel nearby. The next day we headed north, it was a long drive but we arrived in Cherbourg in plenty of time, Settling down on the motorists' lounge it was disconcerting to see the crew laying out small paper bags! After a reasonable crossing we arrived home in the early hours, to find Sarah's exam results on the doormat! She got six grade As, two grade Bs, and a C in extra headlines to say we are very proud of her

As Christmas approaches, Matt is in the fourth year at school studying for his GCSEs. He is also a librarian. Which enables him to stay in at lunchtime, and also to use the library computer at lunch time - as Mr.Michael's doing Antarctic, Jane is still working on a home-tutor for the district council, travelling to various outwork out day. Edwin is impatiently waiting for his next book to come off the presses. We all wish you a Merry Christmas and a Happy New Year.

The family newsletter was produced using an Ascii version of a LocoScript 1 document. This was then fed into The Desktop Publisher. The map was hand drawn while the other pictures are clip art. This one is largely fictitious, you don't really want to read about us, surely?

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MODEM TIMES

No computer is an island, every PCW is wired to the mains. Steve Patient looks at budget modems to connect your PCW to the telephones lines too.

Gone are the days when if you needed to talk with someone in the next town you walked or rode over in order to do it. With 80 percent of homes now having telephones you just pick up the receiver and dial.

But what if you need to send or receive a lot of information? You usually find yourself having to send it by mail; but there is an alternative of growing importance, E-mail. A modem lets your telephone replace the letter just as it replaced the long walk.

When the telephone first appeared, it was thought it would have no application outside of business; it just goes to show how wrong clever people sometimes can be. Today, the telephone allows virtually instant, trouble-free communications between any two (or more) people who own one; it has to be said, however, that at the moment most of us are barely scratching the surface of the possibilities offered by our telephone system.

Over the past few years, for example, there has been a quiet revolution in the way many businesses collect information. All those bar code readers at the supermarket checkouts aren't there just to make the till person's life easier, they're information gatherers. All that information you now get on your itemised receipt also appears in the memory of a computer hooked up to the tills. This is collated and used to adjust orders to suppliers.

The information goes from the local supermarket branches to central offices over the telephone lines quite automatically and, once there, it is used to make bulk buying decisions, distribution plans and much more. All of this relies on EDI – Electronic Data Interchange.

These EDI techniques are still largely confined to big businesses, but as they become faster, cheaper, and simpler to operate, so the technology becomes more available to us all; like videos, which just a few years ago were the domain of the skilled professional and are now in more than 60 percent of homes (and satellite TV, which is coming). In a few years, even our morning papers could be delivered via the telephone lines.

There are already a growing number of people using the techniques of data interchange via the telephone lines to work from home - and why not? Is there any good reason to travel to an office if the information you need to work with can more conveniently be sent to you? The key word here is convenience.

More for less

Just as telephones are only generally desirable when other people have them (who are you going to ring?) so EDI relies on computer owners having modems. In the USA the figures for private computers with modems attached is now around thirty percent; in the UK the figures are much lower. Fortunately, modem owners are less dependant on their friends owning them in order to get a great deal of use out of them; for instance, if it's information you're after, you might be interested to know that in July 1988, the Directory of Online Databases listed 3893 databases worldwide, all just a phone call away.

Then there are bulletin boards, those famous electronic equivalents of public noticeboards where anyone with a computer and modem can place or read messages. As well as private bulletin boards, like those used by the Dingly Delly Ramblers' Association (for example), there are also professional ones dedicated to serving doctors, astronomers, financiers and so on. You can send and receive E-mail via systems like Telecom Gold (not to mention Telex as well now, and, coming soon, faxes). Last, and best, there are a growng number of new bulletin boards, conferences and databases coming on-line.

So what do you need to get in on the ground floor of the EDI revolution? Basically, you need a modem, and with prices coming down and performance going up, there's never been a better time. So this month we're going to look at a few budget modems.

Modems are dropping in price month by month, so we're aiming at a moving target; for example, upper-bracket modems are having to add higher speeds and more features every few months to maintain their prices, and features which would have cost a £1000 five years ago can be had for under £300 now. So how do we define a budget modem? Somewhat arbitrarily, we've settled on a cut-off point around the £350 mark, which still leaves us a lot to look at. We're going to start off by examining a few representative modems within this price range to show the kind of features you can expect to get for your money. We'll finish with an example of a top end modem and see what you get for the price of a six year old Ford Cortina.

Up up and away

The story of modems (short for Modulator/Demodulator, incidentally) is one of an ever-increasing need for speed. The problem with sending data over the standard telephone lines is that it has to go as a series of unintelligible tones of varying pitch. Unless the sound wave is allowed to complete at least three cycles, the modems can't tell what frequency it is, which limits the minimum duration of the sound.

In practice, the limit is only around 600 discrete signals per second;so how do modems get to the kind of speeds achieved by the EC2400 or the spectacular speeds claimed by the latest modems in the £1000 class? Some of these claim 9600 baud over ordinary phone lines, which is extremely fast. How do these fast modems work and what sort of person is willing to spend enough on a modem to buy a six year old Ford Cortina?

Well, there are several tricks that modem manufacturers can use to increase the speed of their products. The first one is to use two tones instead of one. These are 1200 Hz (cycles per second) and 2400 Hz and the same tones are used in both Europe and the USA – which was probably just an oversight; it seems unlikely anything so useful was planned.

With two tones, one modem can both originate and receive at the same time, so giving full duplex operation. The next step is to find some way of packing in more information. As we've already said, the maximum baud rate stays at 600, but the number of bits of information that can be conveyed is increased by means of phase shifting the signal. At this point you will have noticed that bits per second (bps) is not the same as baud

Antiques roadshow

There are a lot of ancient business modems around, usually purpose-built for the companies concerned and often highly specified These can often be picked up for peanuts, but be warned; they can make a monkey of you. You'll need the original manual and often purpose-written software, so make sure there is some.

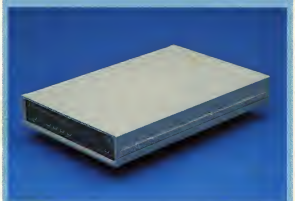
Pace Linnet

At just over the £100 pounds mark, you will find the simplest of modems that are still worth buying. Like the Linnet, these generally offer just two speeds, 300/300 baud and 1200/75 baud. The 1200/75 speed is designed specifically to talk with systems like Prestel, and is not a great deal of use for anything else.

The alternative 300/300 speed is a bit slower but generally more useful. It isn't fast enough, however, for uploading and downloading large quantities of information. A 12k file at this speed (approximately the length of a two page article in 8000 Plus) would take some seven minutes to send or receive. Even at this lower end of the scale it makes sense to avoid manual modems - those that require you to dial a number on a telephone first before switching in the modem. Make sure that you get an autodial modem, and, if possible, one like the Linnet that uses the Hayes command set, since virtually all commercial software will be able to drive it. All these little things help make life a great deal easier.

Like most stand-alone modems the Linnet is designed with a view to sitting a telephone on top of it (most modems have a through connector so that a telephone can be plugged into the back for convenience, even though it isn't necessary for the modem's operation).

The Linnet, like most other V21, V23 Hayes compatible modems, represents a good sound investment for the occasional user, but you become irritated by the lack of speed, especially if it begins to result in higher telephone charges.



The Pace Linnet is one of the best-selling dual speed Hayes compatible modems on the market. For anyone just starting out in comms, the Linnet is a very good buy.

Amstrad SM2400

Between the lowest cost modems and those aimed at professional users there is a jungle in which manufacturers seem to compete by a process of confusion rather than competition. The problem was that while receiving at high speed didn't involve too much extra cost, sending did. Getting a modem up to the 1200/1200 rate put the price up dramatically, and so everything except higher speed seemed to be on offer.

Amstrad came into this confused market very firmly with their SM2400 modem, first as a card for the PC and then in a stand-alone form for the rest of the computer market. Unwilling to battle it out with any of the other low cost modems around at the time, Amstrad chose to take the high ground immediately.

At a price level where other modems were only offering 300/300, 1200/75 and only occasionally 1200/1200 baud rates, Amstrad doubled the stakes by offering the 2400/2400 baud rate as well. Couple this with auto dial, auto answer and the complete Hayes command set, and the competition were shown a clean pair of heels.

The SM2400 set new standards for low cost modems, professional ones. Here was a modem capable of operating on a bulletin board or even with a commercial outfit; naturally it proved very popular (for a full review see Issue 31). The SM2400 can now be bought for just a little over £230 from mail order suppliers – at this rate it is still extraordinarily good value for money.

Probably the best value for money in terms of pounds per feature. The SM2400 can operate at 2400/2400 baud, which is about as fast as the telephone lines can cope with.

Dumb modem

Modems are usually single board devices, and increasingly run from a single chip set. This means that effectively they are unrepairable, so don't buy one that isn't working.

NAME	MANUFACTURER	TELEPHONE	SPEEDS	HAYES COMPATIBLE	SOFTWARE SUPPLIED
DETTON II	HI-TEC	0733 52440	V21 V23	NO	OPTIONAL
DESIGNER	HI-TEC	0733 52440	V21 V23	MANUAL MODEM	OPTIONAL
MIRACLE WS 4000	MIRACOM	0473 233888	V21 V23	YES	NO
TM 500	TANDATA	0684 892421	V21 V23	YES + manual	YES
LINNET	PACE	0274 488211	V21 V23	YES	NO
SB1223	DOWTY	0635 33009	V23	OPTIONAL	NO
MINIMO PLUS 1	DOWTY	0635 33009	V21 V23	NO	NO
SB1275	DOWTY	0635 33009	V23	OPTIONAL	NO
LINNET 1200	PACE	0274 892421	V21 V22 V23	YES	NO
EC 2400	HI-TEC	0733 52440	V21 V22 V23 V22BIS	YES	NO
MINIMO PLUS 2	DOWTY	0635 33009	V21 V23	YES	NO
SM2400	AMSTRAD	0277 228888	V21 V22 V23 V22BIS	YES	NO
TM 512	TANDATA	0684 892421	V21 V23	YES	YES
SERIES FOUR 21235	PACE	0274 892421	V21 V23 (V22 OPT)	YES	NO
MIRACLE WS 3000	MIRACOM	0473 233888	V21 V22 V23	YES	NO
TM 602	TANDATA	0684 892421	V21 V22 V23	YES	YES
LINNET 1200 EXEC	PACE	0274 892421	V21 V22 V23	YES	NO

Hi-Tec EC2400

This is one that plans to give Amstrad a run for its money. The next step up from 2400/2400 modems, as far as speed of operation is concerned, is to build in hardware error checking.

Normally the modem just sends whatever it's told to and passes on whatever it receives. Since the telephone lines can be very noisy, in the electrical sense, not every signal the modem gets is necessarily one that was sent to it. The same thing applies in the other direction, you may send sense but the person you're sending to may receive garbage.

The standard answer to this problem is in software, which adds error checking *protocols* to the material you send (probably the most popular of these software protocols is one called Xmodem). For a number of years professional business comms users have had this error checking built into their hardware. Unfortunately, these hardware protocols are usually manufacturer-specific which means that if you want to use them to communicate with someone, then you both have to own the same modem – a bit unlikely for general use.

The nearest thing to a standard hardware error correction standard is MNP, which was invented by the Microcom in the USA. It stands for Microcom Networking Protocol and currently comes in six versions of steadily increasing sophistication. The EC2400 features everything the SM2400 has but includes MNP level 4 error checking; still, you can't use it unless the modem you're calling has it too.

The next step up from the SM2400 is to incorporate hardware error correction, but it may not be as much use as you'd think. This modem can also use some clever data compression techniques which can make it appear faster still.

rate, though they are usually used interchangeably. The baud rate is actually the frequency of the modem tone, and therefore the number of signal changes a second (or the rate of modulation as opposed to the actual amount of data that is in the course of being transmitted.)

Speed the word

When manufacturers began increasing the speed of their modems, it was far simpler to just talk about 1200 baud than to explain it was really 600 baud with phase shifting to give 1200 bps. Unless you're into the electronics of the business, the difference is really irrelevant.

Even when we reach 2400 bps we're still talking about 600 baud transmission speed; a technique called quadrature amplitude modulation, however, allows each of the 600 bursts of sound to carry four bits of information. Four times 600 gives the familiar 2400 bps we know and love; all of which seems pretty clever stuff.

2400 baud (as we shall continue to call it) is as fast as you can get with anything vaguely sensible; after this the really weird stuff comes into its own. Very high speeds rely on complex compression algorithms to achieve an apparent increase in speed. For these to be of any use, the modems at both ends of the line must agree on the techniques they're using to compress the data. The most common techniques are those invented by the Microcom Corporation called MNP, but there are already several of these which limits their use as a standard.

These fast modems really need a leased line and are only used by businesses like banks and building societies with large amounts of data to shift around. These are permanently connected lines for which the customer pays a standard rental regardless of how much use is made of it. They are expensive but they are also very clean; put simply, that means that there is little or no line noise to confuse the modems. The only step up from leased lines is to forego modems altogether and use direct binary communication - the way you do when two computers are connected via their serial ports by a cable. Of course this may sound like the obvious solution if they're on the same desk, but it can get rather expensive if one is in Manchester and the other in Paris. ■

Overspecified

Because of the number of errors generated by dirty telephone lines, downloading files with error correction protocols can actually be slower at 2400 baud than at 1200. In terminal mode (chatting) 1200 baud is quite fast enough – do you need 2400 baud?

AUTO ANSWER	AUTO DIAL	PULSE/TONE DIALLING	LEASED LINE	HARDWARE ERROR CORRECTION	SYNCHRONOUS/ ASYNCHRONOUS	RRP inc VAT
YES	YES		NO	NO	ASYN	£103.45
NO	NO		NO	NO	ASYNC	£114.95
YES	YES	BOTH	NO	NO	ASYNC	£151.80
YES	YES	BOTH	NO	NO	ASYNC	£171.35
YES	YES	BOTH	NO	OPTIONAL	ASYNC	£174.80
OPTIONAL	OPTIONAL	PULSE	YES	NO	ASYNC	£205.85
YES	NO	PULSE	NO	NO	BOTH	£224.25
NO	NO	PULSE	YES	NO	ASYNC	£269.01
YES	YES	BOTH	NO	OPTIONAL	ASYNC	£274.85
YES	YES	BOTH	NO	YES MNP	ASYNC	£279.00
YES	YES	PULSE (tone option)	NO	NO	ASYNC	£281.75
YES	YES	BOTH	NO	NO	ASYNC	£286.35
YES	YES	BOTH	YES	EPAD VASSCOM	ASYNC	£316.25
YES	YES	BOTH	OPTIONAL	OPTIONAL MNP 4	ASYNC	£316.25
YES	YES	BOTH	NO	NO	ASYNC	£339.25
YES	YES	BOTH	YES	EPAD	ASYNC	£343.85
YES	YES	BOTH	NO	OPTIONAL MNP	ASYNC	£347.30

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	EX800	£4.00	£3.30
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	SPRINT 7/9 FAB	£3.10	£2.80
SHINWA	CP80	£3.38	£2.55
M'TALLY	MT80	£3.38	£2.55

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PLANNING PERMISSION

Geoffrey Childs takes that first step with which all journeys begin

Shock, horror, revelation time. Ninety five per cent of the program that we shall be studying over the next few issues was typed straight into the computer without any prior planning. If we believe what we are told, that is something no self-respecting programmer should ever do. But more than a few other programmers would plead guilty to this particular crime.

Some people always plan their programs on paper; others just write an outline; a few will write down every line of code. You will have to decide which way works most efficiently for you. Some programmers will produce detailed written plans of substantial programs, but type in short programs at the computer. I prefer to do most of my planning mentally and can probably claim that I spend a greater proportion of my time planning a program than most other programmers.

Let's take an extreme example. A couple of years ago somebody wrote to me, asking whether it was possible to achieve a full A4 page screen dump. I wrote back no. It is an extremely useful word in a programmer's vocabulary. At the same time, I felt that it probably could be done somehow and it nagged at me for four months. I was trying ideas and failing dismally. That's part of planning. I actually took less than two hours to write the routine after that. Strangely, it wasn't the idea of bit mapping or screen memory (the difficult part) that bothered me. It was simply that I had a blank spot on a certain escape sequence. The solution was the usual one, read the manual more carefully.

The idea for a program and the motive to write it are like the chicken and the egg. Which comes first? The important point is that both exist. For a beginner, the motive is often simply the Everest one: because it's there. Even for an experienced programmer, it is an adequate motive provided the challenge is sufficient. At the same time, an experienced programmer will probably weigh up whether the satisfaction gained by the programmer or other users will justify the time involved.

Breakdown

To take an example; one of my very early forays into programming was a game of noughts and crosses (on the Sharp MZ 80K, if you can remember that far back). At that time it provided a difficult challenge. I could probably write a much better version for the PCW now, but the satisfaction that I or anybody else would gain from it would not justify the effort.

Most serious programs will contain several options. Even if this is not the case, it is likely that the program can be broken down into various tasks that have to be performed. This is the next stage in the planning. Whether you decide to do this mentally or on paper depends on the complexity of the program, personal preferences, how your brain ticks and the retentive capacity of your memory. If I do use paper, I don't use any formal method, though you may find it appropriate both in this and the next stage to use a flowchart.

At this stage you should have a realistic view about what problems the program will present. Some parts will be straightforward. There are others that require an algorithm that you haven't used previously. Some trial and error testing may be helpful to ensure that a new idea works. There will sometimes be parts that need a considerable amount of research. For example, when I wrote Lightning Basic, one of the new commands was a variable listing. It took considerable disassembly to find out precisely how each type of variable was stored, where to find the variables and which routines were available to convert them back into an intelligible form.

Finally there may be pre-programs that you have to write. For instance, if your program will need a file of information, this can be written before you start to write the main program.

Town planning

Let us apply these ideas to the program BRITMAP that we are going to construct. The motive for the program was that the editor had asked for some useful and reasonably substantial program, such as a text editor, to accompany this series of articles. I was not quite happy about a text editor on the grounds that too much of the programming would be repetitive. I thought about it for about 48 hours before the idea of a map of Britain occurred to me. I could immediately see the program diverting into four main options, each of them involving different techniques. The idea and the motive were there.

The data for the program consists of the names of towns, their latitude and their longitude. This data is contained in files. The first option is adding to, deleting from and amending these files. The second

Sinister subject

When writing to a random file, it is essential to use the FIELD command, and then write all the variables into the FIELD strings by using LSET (or RSET). What is not generally appreciated is that LSET is often a very useful command outside random files. If you do not define the string to be LSET in a FIELD, the usual way to do it is a$=SPACE$(20), for example. Any string now LSET into a$ will be padded or truncated to length 20. Three examples of its use:

1. **Ensuring an entry in a sequential file is not ridiculously long.**
2. **Screen listing in columns avoiding tedious TABs and length checks.**
3. **Comparison of INPUT entry with a standard set of strings. Days of the week could be checked from: INPUT b$:a$=space$(2):LSET a$=UPPER$(b$)**

Puzzle corner

The data for random files is always in strings – to be strictly correct, it is converted into ASCII codes from the strings. To enter a number into a file, it must first be converted into a string. This could be done using STR$ and later VAL to reconvert it to a number. However, using MKS$ (or MKD$ or MKUK$) is more economical. Using STR$ would generally require at least twice as much space to be allotted in the field string.

If you have a hacking inclination, you may be interested in this little bit of research. First define a variable x. Now x=VARPTR(x). FOR n=0 TO 9:x3:PRINT PEEK(n):NEXT. Now make x$=MKS$(x) and FOR n=1 TO 4:PRINT ASC(MID$(x$,n)):NEXT. You get the same result for any value of x. The use of VARPTR shows how a variable is stored in memory, but what on earth do the numbers mean? Hint: try various values of x, and look at the last number and try to work out how this is related to x. Once you have done this, it will only take a few hours to suss out the other three numbers.

What do you mean?

There are bound to be a few commands here that you don't recognise. If you intend to learn programming you also need to learn to read manuals. Look up the commands you don't know and try writing short routines that use them, just so that you learn how they work.

Mapping Britain

This is the first part of the BRITMAP program.

```
10 e$=CHR$(27):c$=e$+"E"+e$+"H":PRINT c$
20 DEF FNa$(r,c)=e$+"Y"+CHR$(32+r)+CHR$(32+c)
```

Without Lightning, it is necessary to do these housekeeping tasks at the start of a program. Some programmers have a standard routine which includes all the usual escape sequences, and start a program with this. We have established a Clear Screen and a Print At. It is nearly always best to define a function for the latter.

```
30 w$=e$+"X 7"+"Y":w1$=e$+"X 7"+CHR$(96):w$=e$+"X a78"
```

The window escape sequences. It is shorter to write them with symbols if you know the characters corresponding to the ASCII codes. Note that there are 2 spaces in w$ (whole screen), 2 spaces in w1$ (left window) and 1 space in w$ (right window).

```
40 PRINT e$"0"
50 r$=e$+"p":o$=e$+"q":b$=CHR$(7)
60 d$=e$+"F":en$=e$+"e"
```

Status line off. Define more sequences: reverse video, reverse off, beep, disable and enable cursor.

```
100 PRINT"Reading files!":DIM e(30),t$(30),lo(30),la(30)
110 GOSUB 5700:GOSUB 5900
```

We will deal with the subroutines to read the files later. The flags, towns, latitudes and longitudes are read into memory in arrays.

```
120 DATA File Management.,Distances.,Route Planning.
130 DATA Map.,Help.,Quit.
140 PRINT w$d$c$:PRINT FNa$(2,31);r$" M E N U ";o$:RESTORE 120
150 FOR n=1 TO 6:READ a$:PRINT FNa$(3*n+4,30);n;a$:NEXT
```

It is easier to use DATA READ to print the menu. Isn't it?

```
160 PRINT FNa$(25,31);r$" Press a key 1 to 6. ";o$
170 GOSUB 5000:z=z-48:IF z<1 OR z>6 THEN 170
```

The subroutine at 5000 is 'Get Keypress'.

```
180 PRINT c$:ON z GOSUB 1000,2000,3000,4000,10000,990:GOTO 140
```

The whole of the main program control is done in one line. ON GOTO and ON GOSUB are valuable commands which should be used more frequently.

Funny numbers

Newcomers to programming are often mystified by ASCII codes. The computer thinks in numbers and has a number to correspond to each letter, figure, or other character that is printable. 65 and capital A correspond, for example. So: PRINT ASC("A") would give 65 and PRINT CHR$(65) would produce A. Sometimes it is more convenient to think in numbers than in letters, and vice versa.

is to calculate the distance between any two towns. The third is to plan an efficient route through any list of towns entered. The last option is to give a simple map of the towns included in the file. Thus we include filing, calculation, decision making and graphics in the one program.

The next stage is to look at the options in more detail. A good system for this program is to have two files. The first file is a sequential file which consists of the number of entries, and a flag for each to show whether or not the entry exists. The flags are needed, since for screen purposes I decided to limit the number of entries to 30, and this meant that an option to delete entries must be included. If, for example, Bristol was entry number 9, and you wished to delete entry number 6, it would be better to leave Bristol as number 9, rather than moving every entry up a place. Minor decisions like this are an important part of friendly programming. The random file consists of a record for each town: name, latitude and longitude.

Window on the world

I did not foresee any problems about calculating distances. It would be done by a subroutine which could also be called by the third option. I decided to do the decision making by a random process, a slightly unusual but not difficult technique that I hadn't used before on the PCW. This needed a test to see whether the idea I had would work quickly and efficiently. This proved satisfactory. The map wouldn't be difficult, but screen layout needed some thought.

At this stage there are two fundamental decisions to be made. The first is how a user should identify a town. I toyed with the idea of using three letters for each town. But... Manchester and Mansfield? Eventually I decided that it would be easier all round to have a list of available towns on the screen, and identify them by number. All this suggested that I should consider the screen as a left and right hand window for most of the program, with the right hand side consisting of the list, and the left hand side containing the other program details. It was also a feasible answer to the map option. A little pottering around at the computer showed that the idea was practical.

Finally, I needed a source of information giving latitude and longitude of towns. My road map used another system, but the second Atlas I found proved satisfactory. All that remained of the preparation was to write a little program to produce files of ten towns, which could be used both as a starter for any user and a development aid while writing the program. This short program, given in this issue, is called BMDATA. ■

Information service

This is the program that writes the data files for the BRITMAP program to use when it's finished. It should be called BM DATA.BAS and it will create two other files.

```
10 DATA John o' Groats,58,39,3,3
20 DATA Edinburgh,55,57,3,12
30 DATA Glasgow,55,52,4,14
40 DATA Leeds,53,48,1,34
50 DATA Manchester,53,30,2,15
60 DATA Birmingham,52,30,1,55
70 DATA London,51,30,0,5
80 DATA Land's End,50,4,5,43
90 DATA Dover,51,7,-1,19
100 DATA Bath,51,22,2,22
```

Each town is followed by latitude in degrees and minutes and then longitude in degrees and minutes. The minus sign means East rather than West. In DATA statements, the commas are essential.

```
110 OPEN"o",1,"town.seq"
120 me=10:WRITE #1,me
130 FOR n=1 TO 10:WRITE #1,1:NEXT:CLOSE
```

This is the sequential file. At the moment it contains 10 entries, and we assign the variable me (maximum entry) to this. Each entry is to be made, so we set the next 10 variables to flags to signal this.

```
140 OPEN"r",1,"town.ran",28
150 FIELD 1,20 AS town$,4 AS long$,4 AS lat$
160 FOR n=1 TO 10:READ t$
170 READ a,b,c,d:GOSUB 5600:NEXT:CLOSE:END
```

This is a fairly standard construction of a random file. The 28 after the name is the record length. The field variables are set at lengths 20, 4 and 4. If you put numbers into a random file, it is usual to turn them into strings first using one of the MK functions. In this case we need MKS$ for single precision numbers (since they contain decimals).

```
5600 long=a+b/60:LSET long$=MKS$(long)
5610 lat=c+SGN(c)*d/60:LSET lat$=MKS$(lat)
5620 LSET town$=t$:PUT 1,n:RETURN
```

I thought this subroutine might be useful for the main program, so the numbering is strange. In the event I didn't use it, but it is always sensible to avoid writing a subroutine twice. Note that all strings to be entered in a file should be LSET into the field variables. The use of SGN in 5610 is to account for the minutes of latitude (there are 60 minutes in a degree) which will count as minus if the degrees were East. This is the type of situation where a bug is all too easy.

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IN ON THE ACT

For the nosey, the curious or the plain old law-abiding : Sharon Bradley journeys north to catch a protection racket in the act

Have you ever been remotely curious about the sort of thing your bank manager says about you the minute you walk out of his office? Do you wake up in a cold sweat at three in the morning wondering exactly what has been indelibly recorded about you on centralised police computer files when the most heinous crime you've ever committed in your entire life is forgetting to pay a parking ticket on time?

Section 21 of The Data Protection Act 1984 provides you with the key to unlock such secrets. Many people, however, still don't realise what a powerful investigative tool they have at their disposal if only they knew how to use it.

Any organisation storing computerised information on living individuals (the data user) is obliged under the Act to register that information. They must, among other things, be open about the uses for which the data is being stored.

The Act allows anyone who believes that details about them are being held on a computer to ascertain from the organisation or individual who owns it just what information is actually being held. It also secures your right to access that data (subject access).

Springfield House in Wilmslow, Cheshire, is the home of The Data Protection Registrar. The biggest section in the organisation is the registration department where application forms for registration are processed. The second biggest is the investigations department; here, data protection staff handle complaints and assign to specific cases the network of investigative agents who are spread around the country working from home. The policy department, meanwhile, provides data protection advice and guidance to organisations and individuals in the outside world. In an attempt to cut through some of the fog that notoriously swathes this Act, we went along to Springfield House to talk to Dr John Woulds, Senior Assistant Data Registrar there.

Dr John Woulds, Senior Assistant Data Registrar, from Springfield House, Wilmslow, In Cheshire

8000 PLUS: It's sometimes suggested that the Data Protection Registrar and his assistants, while having a lot of responsibility, don't seem to have that much power. Is that accurate?

Dr Woulds: No, I'm not at all sure that I agree. Because we're talking about new legislation here, none of it has been tested in the courts yet. So there's no case law for the Data Protection Registrar to fall back on when it comes to deciding how the law applies in a particular case. He has to make his own judgements. We also have the power to prosecute and take enforcement action against those who are contravening the provisions of the Act.

8000 PLUS: To what extent is the Data Protection Act under the jurisdiction of Whitehall?

Parliament passed the Data Protection Act in the first place. Any amendments that need to be made to the Act are made by Parliament. But the day to day running of the Data Protection office is entirely in the hands of Eric Howe, the Data Protection Registrar. Questions of policy on how to interpret and implement the Act are for him to decide.

8000 PLUS: Who decides on the fees that have been set for subject access and registration?

Those fees are decided essentially by the Home Secretary and are then approved by Parliament. The fee for subject access particularly is decided by the Home Office; the fee for registration is decided by them and the Treasury on the basis of information we give them. Although we don't directly receive the income from the fees, we do roughly have to make our books balance over a period of time. The money that we get from the Treasury over a number of years has to balance the money that the Treasury receives in the form of fees paid. It's our job, therefore, to provide estimates of budgets and so on.

8000 PLUS: How much does it cost to register?

The cost of registration is £56 for three years. This applies to any individual or organisation who registers. I accept that it is expensive for the small organisation. It isn't, however, for the large company. Unfortunately, there's no distinction between large and small organisations.

8000 PLUS: How exactly do you define 'personal data'?

Any kind of information that people generally consider to be sensitive and confidential is personal data. But so are names, addresses and telephone numbers. Some people get confused by the word 'personal'. They think that their name and address isn't personal, but it is as far as the Data Protection Act is concerned. Basically, it can be anything that identifies you – apart from indications of intention.

8000 PLUS: Why is indication of intention not classed as personal data?

Expressions of opinion are alright but declaring intention isn't.

A word for the defense ...

Because the DPA is still a relatively recent act, there are not perhaps as many prosecutions going on as you might expect. Even then, the most common cause for the Registrar having to take enforcement action against an organisation is complete failure to register – most of the time through ignorance of the necessity to do so.

Agent provocateur

The team of investigative agents that are spread around the country work from home. As soon as a potentially problematic situation rears its head an agent living in the appropriate part of the country is alerted and will go along to investigate. Most of the agents are ex-police officers with the necessary interviewing skills.

Where to go

For further information about any aspect of The Data Protection Act, phone 0625 535777 and ask for the series of eight guideline pamphlets and a leaflet entitled 'Are you in on the Data Protection Act?'. They're supplied free of charge, are well-written, very informative and should answer any queries that you might have.

It's actually quite a difficult distinction to make. The reason why expressions of intention are excluded is because there was pressure from organisations in the personnel management sector who wanted to exclude from data protection information on personnel succession. You can say someone's suitable for a particular promotion – that's an opinion – but to say he or she is actually going to get it is a declaration of intention. You may not always want the individual concerned to see information like that.

8000 PLUS: Is there any information about people that you cannot keep on your computer?

No there isn't. Although one of the Data Protection principles says that the information has to be relevant and not excessive for the purpose for which you're keeping it. So if you have a simple mailing list database, you wouldn't expect to keep lots of information about somebody's financial details. That would be excessive and not relevant.

8000 PLUS: Let's say that I have a PCW. In my spare time I am also Membership Secretary of the Wilmslow Operatic Society. As a result, I have a database on which I store details (names, addresses, membership particulars) of the 40 members who make up that Society. Do I need to register that information?

If none of the members have objected to you holding such information on a database, and you take certain precautions as to whom you disclose it, then you are excluded from the need to register under the Data Protection Act.

8000 PLUS: What if one member out of the forty objects?

In that case you have a choice. Either you put the details of all the other 39 members on the database and keep that one off, in which case you are still excluded from the need to register, or you go ahead with a computerised membership for everybody – and register.

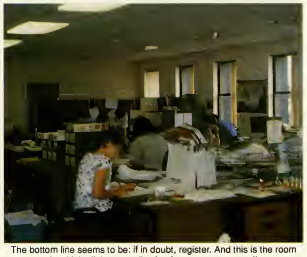
8000 PLUS: Perhaps my club or society is the local branch of a much larger, registered organisation. Would I have to apply for separate registration, or would I immediately be covered by the registration of the 'parent company'?

Your best bet would be to have the parent organisation register and thereby cover everything that you are doing in your branch. Some organisations take full responsibility at the centre for everything that all their various branches are doing on computer. That will make life easier from the individual branch point of view.

Other organisations have not taken that view; indeed, it depends to a certain extent on the legal structure of the company concerned. If the branches are separate legal bodies, for instance, then they will have to register separately.

8000 PLUS: Say I keep a registered database of names and addresses. If somebody then approaches me asking for the address of a Joe Bloggs, whom they think likely to be included on that database, can I give it to them?

That rather depends on what Joe Bloggs has been told in the first place. If you gave him some assurance of confidentiality when he gave you the original information ('I'm only going to use this information for my own purposes, and I won't give it to other people for their use') and then you go and do just that, you might be in breach of the first data protection principle.



The bottom line seems to be: if in doubt, register. And this is the room in which all those application forms are processed!

Easy Access?

To find out what institutions keep personal data, look in the Data Protection Register, a copy of which should be held in major public libraries.

This Register will list all the data users and computer bureaux registered, with details of the kind of data they hold, the type of data subject (whether it is an employee or club member), the purposes for which the data is being held and who's likely to see it.

You will have to make a subject access request, however, to find out if the organisation you're interested in holds any information on you. Bear in mind, though, that that organisation can charge you up to £10 for exercising that right.

Don't – whatever you do – bank on it being an overnight process.

8000 PLUS: What is the first data protection principle?

This states that data has to be obtained or processed fairly. In the latter case, the Registrar might judge that you've misled – and, consequently, been unfair to – Joe Bloggs because you didn't properly explain to him at the outset what all the uses of the information were going to be.

8000 PLUS: The Act applies to 'any living individual.' Do young children and people like the clinically insane enjoy the same rights and privileges?

Yes, although they may have difficulty exercising their right of access to data. There would have to be some kind of third party that has power of attorney. There are ways of making orders so that other people can act on behalf of the mentally ill. The same is largely true of children.

8000 PLUS: Can my brother or a work colleague, say, access data on me?

I would like to be able to say that it never happens. The organisation that keeps the data is supposed to take reasonable steps to ascertain that the person applying for access is who he or she says they are. Some people ask for a birth certificate or passport. Others may request a counter signature. And, of course, often the individual is known to the organisation – when accessing company personnel records, for example.

8000 PLUS: What's the general procedure for accessing information as far as the ordinary man in the street is concerned?

They must make a direct application to the company concerned. The company will then provide them with the relevant form if one is needed. According to the Act, the company is under obligation to reply within 40 days.

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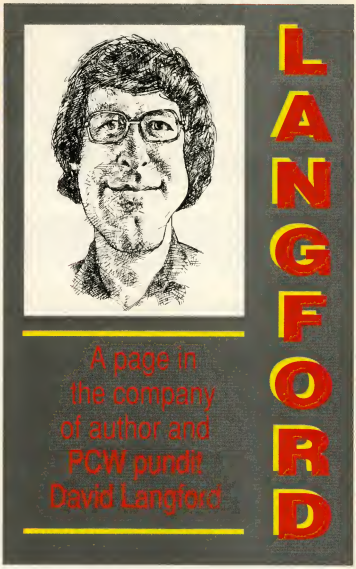

Each year, as technology marches relentlessly onward and hordes more writers discover the joys of automation and repetitive strain injury, the image of word processing grows friendlier — more commonplace. Even non-technophiles can play; even those organisations most mired in ancient tradition, the book publishers. I once moaned here about laggard publishers who despite your offer of perfect copy on disc would still insist on having the whole thing retyped at enormous expense by their palsied printers. This still happens, but nowhere near as universally.

(However, do note that preparing clean print-outs of your stuff remains important. A publishing outfit which favours the IBM GrottyScript word processor will not be happy to get an unsolicited novel on a three-inch disc. These days I add "Available on disc in such-and-such formats" on MS covering sheets.)

The point of disc submissions is only partly that publishers save money on "rekeying". Authors may or may not get a share of the resulting extra profits... but for a dedicated author, the great attraction is that your words should be printed as you wrote them.

Of course, merely changing the format of your text for book pages or magazine columns might not be the end of it. Discreet corrections could be needed, where the sensitive, intelligent editor realises that you've cocked it up.

In addition, there's the question of house style. This makes sense in two contexts. First, if an author is just plain inconsistent about whether to write "World War 2" or "World War II" — "realise" or "realize" — "no one" or "no-one" — then the publishers will quite reasonably get out their "style book" and standardise on their own preferred usage. Second, magazines routinely do the same to articles for the sake of coherent presentation.

Horror stories

So far, so good. The trouble arises when publishers mechanically impose their wretched style-book on prose which is consistent and correct, but doesn't conform to the "rules" scribbled by some bored editor in 1966. For example, at school we all learned to use double quotation marks for speech: "Hello" and not 'Hello'. Many publishers go through entire books substituting single quotes; on investigation you find that every editor you ask would prefer double ones, but "we have to change it because it's the house style".

That's a minor annoyance. One outfit drove me to distraction by preferring the "ize" forms of verbs (OK by me) and as a result changing every use of "advertise" to "advertize" (wrong by either standard), and "laser" to "lazer". The same publisher refused to print the book's dedication because it would injure their lexical dignity: "To XXXX, who teached we to write good."

And another — and let's name names, it was *Practical Computing* back when they ran occasional fiction — favoured me with the worst copy-editing job I've suffered in my life. It was a humorous story, and they passed it to a dour technical editor who carefully removed all the funny bits and rewrote the horrid abbreviations which his house style forbade. Thus I'd have someone saying "Can't fool you!" and it would come out as "Unable to fool you."

But then I started submitting (by arrangement) on disc, and of course everything was perfect. Er, well, um. What is actually amazing is the discovery of how you can send perfect prose on disc and errors will be *put in* by eager copy editors. I still wake up screaming at the memory of my article on fantasy for a magazine whose editor couldn't spell Tolkien, and who carefully uncorrected each of my eighteen mentions of the guy.

Then there's the mag for which I write monthly book reviews. Sometimes I dream of sneaking in and finding out what they *do* to the disc file to lose random letters here and there, just as though it had been retyped by hand. I suspect technology can't be blamed for their dismemberment of unfortunate US anthologist Beth Meacham, who was finally printed as Beth Full Stop New Paragraph Meacham.

A weekly computer rag not a million miles from Bath suffered a severe lapse of its spellynge chequer when I sent (on IBM disc) an article which frequently mentioned the word "twilight". This came out, consistently, as "twighlight".

After all this bitchiness, you're doubtless expecting me to finish by belabouring *8000 Plus*. Unfortunately for lovers of bloodshed, they're pretty good, apart from a tendency since issue 30 to lose my italic marks.

Confession time

I must admit that when recently confronted with a novel safely stored on disc, I didn't do too brilliantly myself. This awesome masterwork was my and John Grant's horror-novel spoof *Guts!*, of which it has been said, by my wife, "Yuk!" Mr Grant and I had drafted it on word processors; alas, he'd used his 8256 while I'd been trying WordPerfect on an IBM clone. (There were complicated reasons for this. No hate mail, please.)

We thus had a book whose chapters were in different formats on different-sized discs. Fortunately, I'd been tinkering with a program to convert LocoScript files to other formats while avoiding the ASCII route which loses all the italic/bold/underline markers. *Guts!* became a huge and revolting guinea pig for this software.

After the revisions were made and the book was printed out, I found a slight problem whereby (for reasons which almost made sense) every dash in the novel had vanished in transit. During my long afternoon of checking early drafts and inserting all the lost dashes by hand, I was mortified to think of you lot chuckling, "Har har, serves him right for straying from the one true way of LocoScript." ■

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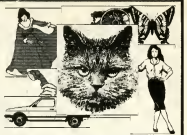

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LISTINGS

The PCW protects important data and pivots into the Gauss Method.

Also this month we begin The Learning Curve. Can you do it better than the manual?

CODER/DECODER

by Ian Andrews

Password protection methods such as the type offered with C/PM (have a look at the SET and INITDIR commands in the manual) are all well and good. A standard word processor such as LocoScript or Protext, however, will not recognise passwords and will allow any Tom, Dick or Hacker to view the file, which rather defeats the object.

Ian Andrews has come up with a fairly simple system whereby the PCW's method of 'seeing' letters as numbers is manipulated to the user's advantage. Each character entered at the PCW keyboard, be it the letter A or a space, is represented in the computer as a numeric Ascii code (Ascii actually means American Standard Codes for Information Interchange). For example the word "Ask" would be understood by the PCW as the group of numbers **65 115 107**. You can see how this works by typing: **PRINT CHR$(65)+CHR$(115)+CHR$(107)**.

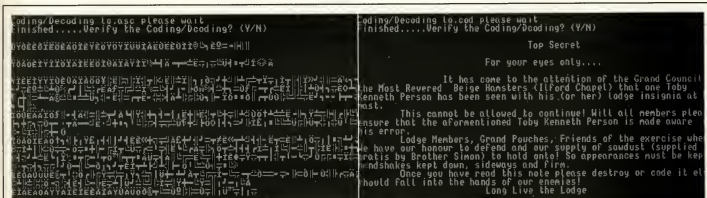
The PCW never sees a letter, it only sees these codes. The Coder program quite simply supplies the computer with false information. It achieves this by means of randomly produced numbers. What you do is to supply an input file saved in Ascii form. Next you give an output filename. These two can be the same; in fact for rock solid security they should be.

The interesting part comes when you are asked to supply a number - any number just pick one. This has a dual role:

Firstly it acts as password protection. You can choose whichever number most appeals, be it 0.323 or 23424324 (or even 0). This number will also be used when it comes to de-coding the file. So, any dubious sort trying to hack into your file will have their work cut out, due to the fact that they have an infinite set of possible choices.

Secondly, it is the **seed** number for the whole encoding process. The Coder program does not use the true Ascii code for the letters (and spaces); A=65 for example, which make up your file. Instead it takes your password, or pass-number, and produces random numbers using, unsuprisingly, the **RANDOMIZE** function. It then tells the PCW to replace your original codes with their random equivalent; 65 might become 38 which is the Ascii representation of **&**. This garbage is read into the new file and voilal utter rubbish until you come to decode it.

All this is carried out in a clear manner using a simple idea. It is also very effective indeed. You might like to encode a file using the program and then decode it without that benefit. All in all a most impressive piece of work.



Before and after. If anyone can decode this manually we would be most impressed.

```
10 REM *CODER By Ian Andrews.(& a little help from Chris Robertson)*      2344
20 REM ***SET UP***                                                       0842
30 CLEAR:cls$=CHR$(27)+"E":off$=CHR$(27)+"f":on$=CHR$(27)+"e":           1796
31 PRINT cls$: PRINT off$:DIM line$(500)                                  1302
40 INPUT "input file name to read from";prog$                             172A
50 IF FIND$(prog$)="" THEN PRINT prog$;" Not found": GOTO 40              1C2C
60 INPUT "input file name to write to";prog1$                             182E
70 INPUT "input code number";codenum                                      14B9
80 RANDOMIZE(codenum)                                                     0B9B
```

At the beginning of the program your Ascii file is requested and sought. Following this you will need to supply the pass-number to be used in the randomisation process which occurs in line 80

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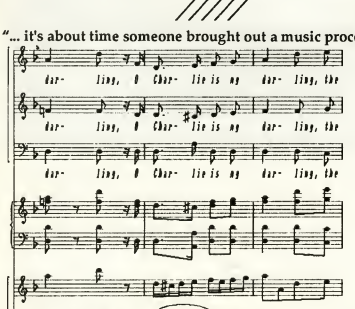

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```
90 REM ***READING FROM "PROG$"***                                    0D19
100 OPEN "I",1,prog$                                                 071C
110 WHILE NOT EOF(1)                                                 092B
120 linenum%=linenum%+1                                              0B8B
130 LINE INPUT #1,line$(linenum%)                                    101C
140 WEND                                                             03F5
150 CLOSE 1                                                          0451
160 REM ***CODING/DCODING "PROG$". WRITING TO "PROG1$"***            19DD
```

The original file is opened and the text is read from it into memory

```
170 PRINT cls$:PRINT "Coding/Decoding "prog$" please wait"           1BF4
180 OPEN "O",1,prog1$                                                079F
190 WHILE num%<linenum%                                              0C66
200 num%=num%+1                                                      06ED
210 FOR length%=1 TO LEN(line$(num%))                                1045
220 code%=ASC(MID$(line$(num%),length%))                             126C
230 rnum=(RND(1)*10):code%=code% EQV((-245)+RNUM)                    1538
240 newline$=newline$+CHR$(code%):NEXT                               1220
```

The second file, the one which will hold the encoded version of your work , is opened and the data from the Ascii file is passed through the filter lines 220-240

```
250 PRINT #1,newline$                                                09A7
260 newline$=""                                                      0659
270 WEND                                                             0400
280 CLOSE 1                                                          045C
290 PRINT "Finished.....Verify the Coding/Dcoding? (Y/N)"            1BF1
300 a$=UPPER$(INKEY$)                                                082F
301 IF a$="Y" THEN 310                                               0802
302 IF a$<>"N" THEN GOTO 300 ELSE PRINT on$:END                      1678,
310 PRINT on$:DISPLAY prog1$                                         0DD2
```

The newly encrypted file is written to the new file which is then closed. It can be verified on screen with the DISPLAY command.

THE LEARNING CURVE

Many readers have written in to tell us that they would like to enter the world of Basic but they feel put off by its seemingly complex nature. Here at 8000 Plus we don't take these things lightly, remembering as we do our first attempts at the art. Consequently we have decided to annexe this section of Listings and turn it over to those of our readers who are taking their first steps on the journey to programming pleasure.

We intend this to be a continuous series. So if you have any questions, the answers to which will not only help you but other people too, you should send them in, (the address is shown below). Don't worry if you think this makes you sound like a beginner, you are and so are thousands of others.

We would also like to hear from people with short (five lines maximum) examples of Basic commands or functions. No payments for these but why not see if you can illustrate the possibilities of Basic better than the manual? The address to send your ideas or examples into is: The Learning Curve, Listings Plus, 8000 Plus, 4 Queens St., BA1 1EJ.

FOR our first example we will deal with the engine room of Basic; the loop. There are two recognised types:
1) The FOR...NEXT loop.
2) The WHILE..WEND loop.
In essence both perform a similar function. They force a program to carry out a command, or set of commands, as many times as you require. FOR..NEXT uses a counter to control the loop. WHILE...WEND continues until some condition is met. This month we will examine the FOR...NEXT version with this simple example:

```
10 FOR count% = 0 TO 5
20  PRINT "Hello World"
30 NEXT count%
40 PRINT "Finished"
```

This loop consists of three sections which can be described as follows:
1) Line 10: Set the loop length to 5. This means that any command(s) within the loop will be carried out five times only. The variable count% keeps track of the number of times the loop has been executed.
2) LINE 20: Print "Hello World!" on the screen. Do this once then move to line 30.
3) LINE 30: Check to see how many times the command has been carried out since the loop started. If it's gone through less than five times one is added to count%. So if "Hello World!" has been printed three times count% will have a value of three. The program then returns to the begining of the loop on line 10. Once the value of count% exceeds five, the program passes out of the loop and moves onto line 40 to print "Finished".

Of course loops can get more complex; they can be 'nested'(one loop inside another). Here are a few things to try, but add them one at a time to see what they do:

```
21 PRINT count%
Now try this:
22 FOR count2 = 1 TO 1.5 count 0.1
23 PRINT "Now counting ";count2
24 NEXT count2
```

So, there we have it, a few things to try and the first of what should be an ongoing series. If you would like to see specific examples of Basic commands or functions illustrated in next month's issue or even the months following, write in!

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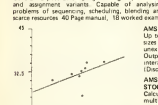

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GAUSSIAN EQUATION SOLVER

By P Whelerton

After our forays into the delights of Mandlebrot and the new fashionability of maths, Listings Plus presents a method to solve simultaneous equations using the Gaussian Method with Partial Pivotting.

Gauss made his presence felt in many areas of mathematics, from the study of probabilities to magnetic field theory. This latter interest resulted in a method of de-magnetising ships as a defence against mines. In the minds of many people Gauss was to numbers what Mozart was to music.

Simultaneous equations are those things about which school children talk with blase contempt. You need two equations, for example: **12x + 2y=24** and **54x – 3y=6**. As you can see each of these has two unknowns, **x** and **y**. You need to discover what the unknown (or imaginary) factors represent. Beware though, some equations, for example **3x+2y=5** & **6x+4y=10** have so many possible solutions for **x** and **y** that no definite one will be found. Mr Whelerton's program will throw up an error message if this occurs.

The program is designed to solve two equations containing two unknowns. The two points which will be of interest are:
1) the **pivot** which is the highest value for **x**
2) the **multiplier** which is the result of dividing the **other** value of x by the pivot.

The pivot is then multiplied by, you guessed it, the multiplier. The result of this is added into the equation which held the lowest value of x in order to produce the final equation.

The program work as follows:
You are asked to provide the two equations followed by the number of decimal places you wish to see in the workings-out and also in the answer itself. A checking process is then carried out in order to see whether the equations have infinite solutions or none at all.

Following the input of these details the program defines the pivot and the multiplier and using the results to produce the final solving equation.

With a bit of tweaking this method, also known as Gaussian Elimination, can be made to solve many more than the two equations which Mr Whelerton has set it up for. Aside from being a useful program for helping the kids with homework, Mr Whelerton's program demonstrates just how clearly a complex algororithm can be presented.

Breaking each step down into a subroutine and calling them in turn using a series of GOSUBS allows the action of the program to be easily understood. During development each section coud be programmed and debugged independently, making the process easier; worth studying for that fact alone.

```
          GAUSSEAN METHOD WITH PARTIAL PIVOTTING


PIVOT/MULT !    EQUATIONS                              EQUN NUMBER
-----------------------------------------------------------------------
  0.3529   |  12.0000 x  +  63.0000 y  =    8.0000      ..... 1)
   pivot   | -34.0000 x  +  21.0000 y  =    7.0000      ..... 2)
-----------------------------------------------------------------------
           |                70.4118 y  =   10.4706      ..... 3) = 1) + 2)x  0.3529
-----------------------------------------------------------------------
                                  y  =    0.1
           Substituting into 2  gives ....
                                  x  =   -0.1
Ok
```

Before your very eyes. A long-dead Austrian genius solves two equations in one.

```
'10 REM ********** PROGRAM CORE **************                    0E54
 20 e$=CHR$(27): cl$=e$+"E"+e$+"H"                                093F
 30 DEF FNat$(X,Y)=E$+"Y"+CHR$(X+32)+CHR$(Y+32)                   1001
 40 DIM a(3,3), decs$(3):                                         07C0
 50 GOSUB 140:GOSUB 70: GOSUB 230: GOSUB 320: GOSUB 400:END       1A96
```

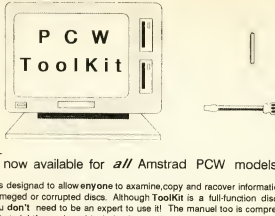
Line 40 sets up the array which will hold details of the original equations and the solving equation.

```
 60 REM ********** HOW MANY DECIMAL PLACES TO USE *********       1697
 70 PRINT                                                        0484
 80 INPUT "Decimal places to show during the calculation ",decplcalc%   2490
 90 IF decplcalc%>6 THEN PRINT "ERROR: Number is too high":PRINT: GOTO 70  2492
100 PRINT:INPUT "How many decimal places in the answer ? ";decplans%   22D0
110 calcacc$ = "###." + STRING$(decplcalc%,"#")                  0F51
120 ansacc$ = "###." + STRING$(decplans%,"#"): RETURN            152A
```

The two variables defined in lines 110 and 120 set up the print format for the decimal places to be shown in the working out and solution.

```
130 REM ********** ENTER COEFFICIENTS OF X & Y **********       158E
140 FOR f = 1 TO 2                                              068E
150 PRINT cl$:                                                  063B
160 PRINT "INPUT THE COEFFICIENTS OF THE VARIABLES X AND Y ON ROW";f   2362
170 GOSUB 570                                                   054D
180 PRINT FNat$(6,0);: INPUT "Please enter coefficient of x   ";a(f,1)   1EF8
190 PRINT: INPUT "Please enter coefficient of y   ";a(f,2)       1C18
200 PRINT: INPUT "Please enter answer to equation ";a(f,3)       1E82
210 desc$(f)=STR$(f)+")": NEXT f: RETURN                         1204
```

The coefficients -that is the actual numbers in the equation- are received by the program and read into the array from line 40.



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```
220 REM ********* PRINT OUT INITIAL 2 EQUATIONS ************                18CC
230 PRINT CL$:PRINT"                GAUSSEAN METHOD WITH PARTIAL PIVOTTING"  20BA
240 PRINT FNat$(7,0);" PIVOT/MULT |      EQUATIONS"; TAB(62);"EQUN NUMBER"  21D5
250 GOSUB 570: PRINT TAB(13);"|"                                            0F6B
260 IF ABS(a(1,1)) <= ABS(a(2,1)) THEN pivot = 2  ELSE pivot = 1            1838
270 other = 3-pivot: GOSUB 520                                              0DBA
280 multiplier = -a(other,1)/a(pivot,1)                                     1377
290 FOR f=1 TO 2: GOSUB 450: PRINT TAB(13);"|":NEXT f                       16CD
300 GOSUB 570: PRINT TAB(13);"|": RETURN                                    148A
```

The pivot is defined with the **ABS** command in line 260. This command only concentrates on the whole number or integer part of a number.

```
310 REM ******** CALCULATE AND PRINT THE THIRD ROW **********               1940
320 a(3,2)=a(other,2) + multiplier*a(pivot,2)                               130B
330  a(3,3)=a(other,3) + multiplier*a(pivot,3)                              131D
340 desc$(3) = "3) ="+STR$(other)+") +"+STR$(pivot)+")x"                    13B0
350 PRINT TAB(13);"| ";TAB(25+decplcalc%);USING calcacc$;a(3,2);            1BAF
360 PRINT " y  =  ";USING calcacc$;a(3,3);                                  0FD8
361 PRINT TAB(59);"..... ";desc$(3);                                        0D7B
370 PRINT USING calcacc$;multiplier: PRINT TAB(13);"|"                      1E35
380 GOSUB 570: RETURN                                                       0A28
```

Lines 320 and 330 produce the x and y values for use in the solving equation. Once obtained these values are added into the array which has been set up to take three values for three equations.

```
390 REM ******** CALCULATE & PRINT OUT FINAL SOLUTIONS *******             1BB1
400 y = a(3,3)/a(3,2): x = (a(pivot,3) - a(pivot,2) * y) / a(pivot,1)     19D5
410 PRINT: PRINT TAB(30+2*decplcalc%);"y  =  ";USING ansacc$;y: PRINT     1FEA
420 PRINT TAB(15);"Substituting into";pivot;" gives ....": PRINT          20C7
430 PRINT TAB(30+2*decplcalc%);"x  =  ";USING ansacc$;x: RETURN           1D36
```

The very heart of the program. The algorithm in line 400 carries out the major calculation. Notice the use of the information taken from the array which was dimensioned in line 40.

```
440 REM ******** PRINT OUT EQUN NUMBER 'F' ***********                    146B
450 IF f = pivot THEN PRINT "Pivot=";f; ELSE PRINT USING calcacc$;multiplier;
                                                                          2981
460 PRINT TAB(13);"| ";USING calcacc$;a(f,1);: PRINT " x  ";              17B6
470 IF a(f,2)< 0 THEN PRINT ;"- "; ELSE PRINT ;"+ ";                      12FD
480 PRINT USING calcacc$;ABS(a(f,2));                                     11DA
490 PRINT " y  =  "; USING calcacc$;(a(f,3));                             101D
500 PRINT TAB(59);"..... ";desc$(f): RETURN                               11E7
```

The third, or proving, equation is carried out here. This involves the value of the other value of x being divided by the pivot. The result is printed on the righthand side of the screen.

```
510 REM ******** CHECK EQUNS CAN BE SOLVED **********.*                   1468
520 check = a(other,1)/a(pivot,1)                                         0EB2
530  IF (a(other,2)/a(pivot,2) <> check) THEN RETURN                      173A
540 GOSUB 570:PRINT"Equations are inconsistant or have infinite solutions"29DB
550 GOSUB 570:END                                                         0764
560 REM *** PRINT LINE OF UNDERSCORES *****                               13DB
570 PRINT STRING$(79,"-"): RETURN                                         0F8C
```

Checking to see if the equations can actually be solved at all, if not the error message is given and the program ends.

Getting Below the Surface

Last month we published Surface.bas, a program by Mr M A Baldwin. Following this we received a number of amendments from that same gentleman. Although the program as printed will work, the additions will add to its charms and provide even more pleasure. The points to note are as follows:

1) The variable st does stand for Step but will not provide the area to be magnified. To achieve this you will need to alter the parameters of the loops in lines 90 and 100. What st does is to alter the frequency with which the lines are drawn within the area selected by the loops.
2) The POKE 441,0 in line 80 gets rid of the ok prompt. To get it back you will need to POKE 441,79.
3) Mr Baldwin suggests a number of functions which might produce some interesting images. The four listed below are just a selection of those possible:
   LOG(SQR(x*x+y*y))
   –SIN(x*y)
   SIN(x*y)
   –SIN(SQR(x*x+y*y)x*y))
4) The lower illustration on page 61 is in fact the image of the function SIN(x*y) and is not achieved merely by altering the variables ed, ax and az. Many thanks again to Mr Baldwin for his program and apologies for our errors.

TIP OFFS

Tips

Questions

Scale the serried slopes of software skills and stand supreme in sight of sage solutions

Yes, once again our seers and mages contribute their arcane skills to this, your very own PCW grimoire, packed cover to cover with spells to help you overcome leprechauns in LocoScript, pixies in Protext and hobgoblins in Hatchetts (*isn't that the pub next door? Yes, how did that get in here?)*

If you know how to cast out any little devils then send your magic to Tipoffs, 4 Queen Street, Bath, BA1 1EJ. Beware though, you might find a tail dark handsome postman bringing you money. This month the rewards go to John Eggeling for his tip on altering key repeat rates and to Malcolm Ruthven for his LocoMail calculator.

Filing system

Jetsam users know just how easy it is to find their programs falling over with the dreaded Inconsistent files error message.

Recovering anything from the resulting debacle is difficult. There are several things you can do to avoid this situation when developing programs using the Jetsam functions.

Disable the [STOP] key with the instruction **OPTION RUN** at the beginning of your program to prevent the program terminating at any point except where you want it to.

Use RESULT = CONSOLIDATE (filenumber) function in the program whenever a record is changed; don't wait until later.

Protect against errors in your programming with an error trapping routine:

```
10 OPTION RUN
20 ON ERROR GOTO 1000
1000 CLOSE (filenumber)
1010 ON ERROR GOTO 0
```

The last line tells Basic to generate whatever error message is appropriate, rather than you having to type PRINT ERR, ERL to find out what it is.

James Campbell
Gillingham
Dorset

Helping hands

When a key is held down it will normally start to repeat after 0.6 of a second and the character will then begin to appear on the screen at intervals of 0.04 of a second (quite fast). All of this is perfectly acceptable for the able-bodied, but for those whose hands are slow for one reason or another 0.6 of a second isn't long enough to get their fingers off the keys.

The key repeat rate defaults can be changed permanently using SID (or any monitor program). In the examples given the rate has been changed to allow five seconds before the key repeats and five seconds between each subsequent repeat.

The key repeat rate is normally a very low number (02 in Hex) and the time until repeat much higher (either 1E or 1F Hex) as can be seen from the screen shots. There are four screen shots, one version of the CP/M operating system.(the EMS file) and three versions of LocoScript.

It may be that you have a version not shown here. In CP/M and LocoScript 1 the sequence of bytes you're looking for should be 21 02 1E and it will only occur once, so finding it shouldn't be a problem. In LocoScript 2 this isn't the case so this tip is only useful for versions 2.03 and 2.16.

For anyone suffering from reduced manual dexterity providing more time to get their fingers off the keys could make their PCW considerably easier to use.

John Eggeling
Todmorden
Lancs

```
A)sid jl4cpm3.ems
CP/M 3 SID - version 3.0
NEXT MSZE  PC  END
A100 B100 0100 D2FF
#s1283
1283 21 .
1284 02 FF
1285 1E FF
1286 CD .
#wjl4cpm3.ems
```

```
A)sid j203loco.ems
CP/M 3 - version 3.0
NEXT MSZE  PC  END
A100 B100 0100 D2FF
#s58FE
58FE 0E .
58FF 02 FF
5900 E5 .
#s59BC
59BC 0E .
59BD 1F FF
59BE 3E .
#wj203loco.ems
```

```
A)sid j20loco.ems
CP/M 3 SID - version 3.0
NEXT MSZE  PC  END
A100 B100 0100 D2FF
#s9F43
9F43 21 .
9F44 1E FF
9F45 1E FF
9F46 CD .
#wj20loco.ems
```

```
A)sid jz16loco.ems
CP/M 3 - version 3.0
NEXT MSZE  PC  END
A100 B100 0100 D2FF
#s5A8F
5A8F 0E .
5A90 02 FF
5A92 E5 .
#s5B9D
5B9D 0E .
5B9E 1F FF
5B9F 3E .
#wjz16loco.ems
```

These four are the only versions of CP/M and LocoScript for which we have slow key pokes

Struck by lightning

A few correspondents have had some problems with Lightning Basic, some of the answers deserve wider dissemination.

8000 Plus suggested that nearly all COM programs would work with the RUN command, which is a shade optimistic. The most frequent problem is the sequence 42, 1, 0 (decimal) in the COM file code (like the Hisoft editor ED80). These can easily be replaced with 33, 3, 252 and the programs will then work. Use the command #ml to load the COM file into memory, #zf to find the offending string; change the values using POKE and then save the altered COM file with #ms (memory save).

Although the manual mentions it, it's worth noting that if you copy LIGHT2 onto a different disc you will need **GPRINT.DAT** and **STRING.DAT** on the same disc. **LIGHT3** needs **NSPTOG.DAT.**

Lines such as **OPEN "r",#1,good.dat** will produce errors since the hash sign gets changed to LEB; leave it out, it is superfluous.

Geoffrey Childs
Glos

Put it there

For some time now I have been trying to convert a series of programs published for the CPC464 machine. They are all eminently practical and, in the main, the Basic lines of the CPC match without any trouble those of the PCW. Two problems, however, have brought me to a state of extreme frustration. If I may quote:

```
110 FOR J=1 TO NM:LOCATE
(6+5*J),1:PRINT M$(J)::NEXT
```

The 'experts' at Amstrad's technical department tell me that the above line contains a 'locate' routine! Gosh! Why did I not see that?! Again, if I may quote:

```
1320 PRINT #8.....etc.
```

In a nutshell: how can I change the CPC LOCATE function to a PCW function which would allow me to print headings (say months a la spreadsheet) across the page? And how do I save these details to disc?

David Morris
Maidenhead

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Do you already own a computer
If so, which one do you own?

DTP ☐

TIPOFFS

***8000 PLUS** Converting listings from other computers can prove frustrating if you don't fully understand what the original is doing, and what your own machine can do. The cursor on the PCW can be positioned using one of the ubiquitous escape sequences printed to the screen; in this case **ESC Y row column** where ESC is the number 27, Y is the character that represents the number 89 (decimal) and row and column are variables showing where you want the cursor to go (decimal or not as you please). This can be put into a print statement in a variety of ways. For example:*

PRINT chr$(27)+"Y"+row+column

Rows and columns are counted from the top left hand corner and the actual row and column numbers need 32 added to them for the Escape sequence to work. We can now put our positioning sequence into a function statement to make it easy to use, thus:

FNlocate$(r,c)=CHR$(27)+"Y"+CHR$(r+32)+CHR$(y+32)

Now you can use this as a new command:

PRINT FNlocate(r,c) or
PRINT FNlocate$(4,12)

As for printing to a file it really depends on the kind of file (you can have sequential files, random access files or keyed files in Mallard). Assuming a simple sequential file:

OPEN "I",1,filename.typ
PRINT #1,FNlocate$(r,c)

Remember, in general terms the thing to do is to find out what the code is actually doing and then alter it.

Spinning heads

In order not to show myself up, I've been waiting to see if there was anybody else who doesn't know (ie is as thick as me), how to get the head cleaning disc to rotate for 30 seconds. Could anybody tell me how to 'engage the drive head for approx. 30 seconds'. Is it possible to step the head across the disc so that the same part of the cleaning area is not used every time?

Mr Neville E Downes
Taunton
Somerset

***8000 PLUS** Put the cleaning disc into the drive and attempt to log onto it. From LocoScript 2 just press [f7] (for Disc Change). Under CP/M just do a DIR. Both of these techniques will produce an error message but that won't matter. The head will be sent to the centre of the disc and back out again several times as the PCW attempts to log on to it.*

What will matter is cleaning the heads too often which can score them. An early attempt in the 8000 Plus office to clean a disc head resulted in installing a new drive. On my own machine, now aged three and used every day, I've never cleaned the heads. Unless you're getting a lot of read and write errors (on all discs) there is no reason for doing this.

Additional material

Many word processors have built in calculators these days and it can be surprising how often you make use of them. This short routine makes use of LocoMail's mathematical functions (*see the tutorial on page 33*) to provide a four function calculator. If kept on drive M, it takes only a moment to call up and use.

To use it, simply type it in as it appears on the screenshot and use F (for Fill) from the disc management screen to make it work.

Malcolm Ruthven
London

```
A:PROGRAM /QUICKSUM.F    Editing text.                    Printer idle.
Main          P1|2     LS1    CR=0    LP6                          Pag
f1=Actions    f2=Layout    f3=Style    f4=Size    f5=Page    f7=Spell
.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10.....11.....12
        QUICK CALCULATOR(Ralign)                    by Malcolm Ruthven
        (+UL)(Ralign)

        (+Mail)total=0(C-Mail)                          (+Mail)
        first=-9:first_number
        :
        first=(first-2):first(C-Mail)
        (+Mail)total=(total+first)
        :loop=(-(y<1))
        sign=?:Sign + - x /
        next=?#Input number
        next=(next-2)
        #sign="+":total=(total+next-2):?
        #sign="-":total=(total-next-2):?
        #sign="x":total=(total*next-2):?
        #sign="/":total=(total/next-2):?
        (+Mail)                    (+Mail)Sign(+Mail) (+Mail)next(-Mail)
                                   (+Mail)                 (+UL)
                                                    (+Mail)Total(-Mail)
        (+Mail)Continue=?Continue? ENTER for Yes, N for no
        Continue="N":(-finish=0):(-finish=1:?
        (-Mail) :xloop:finish(-Mail)
```

You can now add a four function calculator to LocoScript with this simple LocoMail routine

Dated database

If you use a database for names and addresses it can be useful to store the postcode in such a way as to allow the records to be listed in 'alphanumeric order' of the postcode. Then, if you should wish to visit a selected group of addresses (to collect people, deliver documents or whatever) the list can be printed in order of postcodes, thus automatically giving you the shortest route between addresses. Clever chaps, these postmen.

Chris Shipp
South Devon

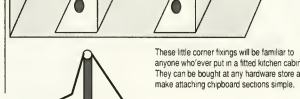
Raised print

A printer stand can save a great deal of space on your desk as well as allowing you to work more easily either continuous paper or cut sheet. Paper can be stored underneath the stand and in the case of the continuous paper it can be collected behind the stand when printing out long documents.

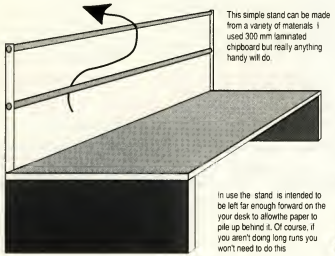
The stand is made from a piece of melamine covered chipboard 12" wide and 1/2" thick. You need a piece about 18" long for the top and two pieces of about 6" long for the legs. These are attached to the top with standard chipboard corner connectors available from any hardware or DIY store.

The frame on the back allows the continuous paper to be guided in and out of the printer without fouling and is made from 1/2" dowelling attached with small screws. It is important to predrill the dowelling to avoid splitting the wood.

Donald Sawyer
London

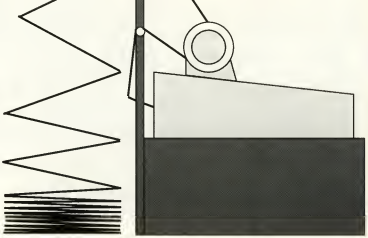


These little corner fixings will be familiar to anyone who'ever put in a fitted kitchen cabinet They can be bought at any hardware store and make attaching chipboard sections simple.



This simple stand can be made from a variety of materials. I used 300 mm laminated chipboard but really anything handy will do.

In use the stand is intended to be left far enough forward on the your desk to allowthe paper to pile up behind it. Of course, if you aren't doing long runs you won't need to do this



Stop Press files take up a lot of space on disc. It makes much more sense to work from a B disc giving up to four times as much instant access.

Picture this

The continual swapping of discs in Stop Press between clip-art and typeface discs can be a real pain but the solution for 8512 owners is simple. Just copy them all onto a high density disc in B. This provides a second advantage in that there is still 344k free on the disc – enough space for up to six full pages of Stop Press.

To prepare your new disc, start with a formatted B disc and run PIP from your copy of the CP/M disc. When the * prompt comes up replace the CP/M disc with your typeface disc and type:

```
b:=a:*.*
```

You will now see a list of the files appear as they're copied. When all the files from the typeface disc have been copied turn the disc in A over and type **[Alt]w-[RETURN]**. This will cause the last command to be repeated and the clip-art files will be copied to the B disc.

When this process finishes, simply press **[RETURN]** to exit from PIP. Now you can replace the disc in A with your Stop Press system disc and press **[SHIFT][EXTRA][EXIT]** to reset the PCW. Just change the drive selector from A to B to allow Stop Press to use the newly created disc in drive B.

P F Moreau
Sandbach
Cheshire

Toast this pop up

One of the advantages of LocoFile is the speed with which it can pop up its data on screen – much faster than saving the current document and loading another one.

Take advantage of this by creating a reference sheet as a small LocoFile database. For a pop-up character reference chart, create a card of width 40 and height 27 with a margin of zero. You need only two items splitting the card in half but with a height of 26 (to leave room for titles above).

With this on drive M, it will always be available while you're working should you want to know the key combination for 'large slash'. It's the work of a moment to run LocoFile and look it up.

This idea can be extended to include a page or two of your most used telephone numbers. Even better, a single large record is ideal for making notes while you're working on another document.

Derek Madge
Exminster

Blockhead

I have two questions concerning LocoScript 2. Even if I create a document containing no text at all, after finishing edit, the Disc Management screen says DOC-NAME.XXX 2K. This I cannot understand. I have never been able to create a document with size 1K. Why? Is my PCW greedier than most?

On very rare occasions, when booting up LocoScript, I have found that my PCW assumes it is an 8256, whereas it is an 8512. When the Disc Management Screen appears, it rudely tells me my drive B isn't fitted. A minor problem. But why does it happen?

Nathan Perrin (14)
Fordingbridge
Hants

8000 PLUS The minimum size of any file on disc is determined by the block size. A block is the minimum amount of information that the PCW can read or write to disc in one go and varies depending on the disc format.

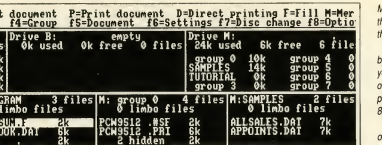
The block size depends on the number of bytes allocated in the directory to map the block locations on disc. On the PCW the block size on 180k discs is 1k, on 720k discs and the RAM disc 2k is the size used. If you copy a file with a few words in from M to A the size will change from 2k to 1k. A complete discussion of disc and directory structure on the PCW needs an article. If enough readers write in and demand one I'll do it.

As to losing the second drive on booting up, my PCW does that occasionally and so does one of the 8512s in the office. I would attribute this to a bug in the way the system checks the environment when it's first loaded – or perhaps poor connections on the ribbon cables (all this conjecture means that I don't really know).

Reminder

Backing up discs should be something you do on a regular basis, but if for some reason you only back up your data

Save on shelf space, put those manuals away. All the information you might want can be no more than a keypress away using LocoFile.



Naming your disc with the date on which you last backed it up can provide you with a permanent on-screen reminder to do it again soon

infrequently, it's a good idea to have some kind of a reminder.

Using the LocoScript facility to name or rename a disc you can back up a working disc and then change the name of your working disc to the date of the backup. It will then appear on the disc management screen whenever you use the disc and make you feel guilty about leaving it so long between backups.

G Jackson
Manchester

Looping the loop

The Amstrad PCWs are renowned for creating localised Radio Frequency (RF) interference, which can make the nearby use of cordless phones or portable radios difficult. But, it may be possible to improve things.

This involves going into high voltage areas of the PCW so if you don't feel confident take your monitor to a TV repair man (or other qualified engineer) and let him do the job. In any case, the PCW should have been left switched-off for sometime beforehand, preferably overnight.

Remove the back of the monitor (6 screws, including 2 holding the top and bottom of the Expansion Card). Looking into the back of the machine, locate the grey plastic 'can' near the right-hand corner, nearest you. It will have a thick black lead running up to a rubber cap on the back of the cathode ray tube. This lead should have a loop in it, secured by a cable tie. This loop may have been pulled tight. The nearer this lead is to a straight line, the more RF it will radiate.

Taking care not to dislodge or touch the rubber cap, ease the black lead through the cable tie to make the loop as large as possible. Replace the back of your machine, and boot it up. With a bit of luck, the interference should be reduced.

Graeme Aldous
Saltburn
Cleveland

Newsweep

Now you've all got Newsweep (subscribers got it free on the 8000 Plus collection and anyway, it's public domain so there's no excuse for not owning a copy), you can ditch memory hungry programs like DIR.COM and even PIP. Yes, Newsweep can be used to copy all those files to the M drive when you boot up as easily as PIP can. For example, here is a sample PROFILE.SUB file from my own discs:

setdef m;* [order = (sub, com) temporary = m:]
nswp
<w*.com
<w*.sub
<mm
<fdir.doc
<v
<x

As you can see all the Newsweep commands can be encoded as input lines. On entering Newsweep the first instruction is the equivalent of typing w for wild card tag, getting the prompt 'Which files?' and replying *.com to tag all the COM files on the A disc. The next line tags the SUB files and the third one does a mass copy to drive M (m for mass copy and when prompted 'copy to drive/user?' m for drive M).

Note that it's important not to leave any spaces; the key strokes in the profile sub file must be exactly the same as they would be if Newsweep were running on the screen. So, now you can dispense with not only TYPE, DIR, ERASE, RENAME and SET but also SUBMIT, a total saving on disc space of more than 35k.

Barry Etheridge
Oxford

Fading memory

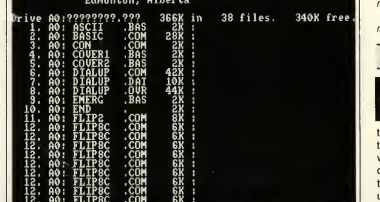
Can you please answer a very basic question. If my PCW 8512 has 512k of memory why do I have only 280-odd showing in Drive M as available? Where is the rest, and why, when I feed in fonts, locodictionary etc, do I have only a few k left for use? Surely the other drive (A/B) are disc memory, so don't count into the total. This never worried me till I bought LocoSpell. Looking forward to your enlightenment in due course.

Tricia Tillin
Exeter
Devon

***8000 PLUS** The 256k or 512k refer to the total amount of RAM (Random Access Memory) fitted to the main circuit board in the computer and has nothing to do with the disc drives.*

Of this memory 144k is always taken up by the Operating System whether you're in CP/M or LocoScript. What's left over is used as a RAM drive, a kind of pretend disc drive. This is 112k on an 8256 or 368k on a 8512 or 9512.

LocoScript 2 goes on to annex more of the M drive for printer files and other essentials which don't even show up on the disc management screen. If you then go on to load in dictionaries, fonts and so on then you are inevitably going to use up space. Personally, I think that even though they run more slowly it makes sense to use a dictionary – which is used infrequently – from disc and keep the M drive clear for editing, which you do all the time.



Newsweep is the public domain utility that no-one should be without. It can replace a plethora of files.

Three wishes

I am the proud owner of a PCW 8256 with 512k of memory and a Pace 5.25" B disc drive and I have three questions. I would like to create another logical drive, drive C, but this does not seem possible. I tried using SETDEF A, B, C but this gives me BDOS function 17 Invalid Drive. Is there any other way I can do this?

Is it possible to swap files between a BBC Master and my Amstrad using the 5.25" drive? Could you please do a feature on the Isenstein 512K ramdrive?

Duncan Brown
Woodborough
Notts

***8000 PLUS** You can't make another logical drive (this is a feature of single drive machines to make certain disc operations easier). What would you do with it anyway?*

The best way to transfer data from a BBC is via a cable; see the tipoff in issue 31 page 70.

A product (now no longer made) called Intergem came with software for this but I never managed to make it work.

Feature on the 512k RAM drive next month – with luck and a following wind.

Ticking off

After connecting a CPS8256 parallel interface to my 9512 (so that I could use a modem) I discovered that my LQ3500 printer (plugged into the PCW's built-in parallel socket) would no longer work. I eventually discovered that since I had added the interface LocoScript, apparently under the delusion that my printer was now connected to the CPS8256, had ticked the parallel CPS8256 option on the 'Printer options' menu. All that was required to fix it was to

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Using a special disc format has allowed us to record a Thesaurus datafile of over 780K on the disc.

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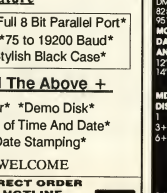

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PLEASE RING OR WRITE FOR YOUR FREE COPY

tick the correct option.
Mrs L Skipper
Stockton-on-Tees

8000 PLUS This shouldn't happen but I did hear a hint that there just could be a bug to this effect in some versions of LocoScript 2. If anyone does have a similar problem it's worth looking at the printer settings.

```
PROTEXT  Document  << No File >> OK    Justif
Page 1   Line 8    Col 3               No mar
L-------|-------|-------|-------|-------|-----
Mallard-80 BASIC with Jetsam  version 1.29
(c) Copywright 1984 Locomotive Software Ltd
All rights reserved

31597 free bytes

Ok
5 REM ++PROTECTED++
10 PRINT "HELLO"
Ok
PRINT PEEK(31382)
 20
Ok
POKE 31382,56
Ok
LIST
5 REM ++PROTECTED++
Improper argument
Ok
RUN
HELLO
Ok
POKE 31382,20
Ok
LIST
5 REM ++PROTECTED++
10 PRINT "HELLO"
OK
```

A little demonstration of the effects of poking 31382 with various numbers while in Basic.

Poke it and see

One of the problems in Basic is recovering programs that have been NEWed but are suddenly required.

When the NEW command is used, Basic POKES a value of zero into memory location 31382 (the start of the Basic program area). Once this is done, Basic then acts as if it had never heard of your program.

To rescue a program running under Basic 1.29 simply POKE 31382 with the original number (if you know it) or 255. The original number lets you RUN and LIST the program, 255 only lets you RUN it.
Steven Byrne
Manchester

Whereupon

What the hell is a Disc Address Mark, anyway? And more to the point, how do they manage to get themselves lost, for heaven's sake?
Shaun Gregory
Brighton

8000 PLUS When a disc is formatted, one of the things done is to mark up the disc so that any part of it can be found, like giving streets names and houses numbers so that you can find the right one. Each track on the disc is first given a Header Block to identify its beginning. The next step is to mark up all the sectors on the disc. These get a sector ID (a number which the PCW refers to as an address mark) and various other bits of information of use to the system (like the CRC number – Cyclic Redundancy Check – which is used to confirm that the data in a sector is uncorrupted).

If any of these pieces of information becomes unreadable the PCW reports a missing address mark. As to why they go missing, well, if you were whizzed around at 300 RPM day in and day out you'd need a holiday too.

Paper problems

I write to ask if you can help resolve a problem I am experiencing on my PCW9512 recently purchased.

The problem arises in using different types of paper to which Session 20 of the instruction book refers. I have tried many times following the instructions to change the paper size to A5 but to no avail. The printer prints as though it was using A4 and furthermore it is double-spaced.

I have been to the supplier who found the same problem on his own equipment and could offer no advice other than there might be a fault in the program or the user instructions are wrong.
E W Merriman
Lyme Regis
Dorset

8000 PLUS Locomotive assure us that session 20 is completely accurate (though it doesn't explain widths properly – this is needed so that the PCW knows how long a line is when the paper is printed landscape). Make sure that having set up your new paper type you save it by accepting the offer to update your SETTINGS.STD file on your start of day disc when you finish. Next, ensure that your document is using the correct paper type by specifying it in the Document set up. Finally, make sure that when you come to print it out you use the paper type specified in the document and not anything different that the printer might currently be set up for. If the paper type in the document and that in use by the printer don't match change it by pressing the [PTR] key followed by the [f3] menu. The double spacing can only come from a control code embedded in the document.

Key choice

Interesting though Mr Reg Osbourne's tipoff on using SID to alter Mini Office's function keys was, there is an easier way to achieve the same end from within Mini Office itself.

Load the Comms package from the Main Menu and select the **Function Keys** menu. A sub menu will appear offering the option to **Define Keys**. You will now be offered a list of eight function keys with their current definitions. These can be edited as normal and then saved when you exit. Make sure you save them to disc if you intend to use them in the future.
Stephen Mason
Frating
Essex

From the menu select **Define keys** which give you access to the current funtion key definitions.

Once you have the list of current key definitions it's a simple matter to change them to anything you want and save them for the future.

Numbers game

Have you ever decided to give a LocoScript 2 group a number rather than a name – for instance 1988 for correspondence for that year? Well if you did, then you found that LocoScript 2 won't accept a number as a Group name.

There is a way to do it. Press [f4] as usual to get the menu offering **Rename group** as an option. Now for the trick. Start the name with any letter you like and then enter the number you want to use, so it might be G1988. Now move the cursor left with the arrow key and simply delete the G. The numbers will now happily move into the position where you want them with no bleep of protest. Press [ENTER] and you now have the number of your choice as the Group name.
Simon Fischer
London

Line time

The Tipoff sent in by J D Grahame (issue 34) on constructing a phrase to print a long dash on the 9512 works less well on the dot matrix printer. Much better is (+Pitch 12D)-(-Pitch).
Madelon Burk
Le Vigan
France

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These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Word Processors (including Desk Top Publishers), Accounts/Payroll packages and Utilities. We've set out to cover every important piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

All software will run on both the 9512 and the 8000 series machines, though the former's daisywheel printer cannot print graphical output.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available.

As well as a brief summary of what they do, the main Plus and Minus points for each program are listed – Pluses have a ▲ by them, Minuses a ▼. Those we think are particularly noteworthy have a corner flash. Have fun window shopping!

Word Processors

The PCW already comes bundled with its own word processor, so you might not think of buying another one as a priority. In fact, whatever you may have read in some magazines, LocoScript is a pretty good wordprocessor and you won't find many editing and layout functions it doesn't have. His principal disadvantage was its slowness, but the release of Locoscript 2 has remedied that.

There are advantages to be had in changing. LocoScript cannot run from CP/M, and this may cause you trouble.

Many other word processors have a built-in 'mailmerger' program. This is a way of doing bulk mailshots; you store your address list in a data file, and write a letter with labelled gaps where you want the names and addresses to go. Then, when you print, the letter comes out once for each address, with the information in its correct place. Also, you often get a spelling checker thrown in free – look for one which allows its dictionary to be modified so you can include non-American spellings.

One thing's for sure, whatever word processor you buy it will be totally different to operate from LocoScript. The PCW keyboard is custom built to run it, and if you change you may have to get used to some arcane choices of keys to do even simple operations. Also, you won't be able (very easily) to use all the printer styles that you can in LocoScript, though there will be enough to get by with.

PROTEXT/ POCKET PROTEXT

£59.95/£29.95 • Arnor • 0733 68909 — Powerful

The best CP/M wordprocessor. Very fast at 'moving' around large files, and packed with features. Works with key combinations rather than menus, but uses LocoScript keys too. Comes complete with a good spelling checker, a lightning fast word counter and a very powerful mailmerger. 'Pocket Protext' is a stripped down version – essentially the same word processing features, but no spell checker or mailmerger, and lacking one or two incidental facilities like two column printing. Specify which machine you have when buying.

PLUSES · MINUSES

- ▲ Complete with spelling checker/word counter
- ▲ Packed with features, eg. calculate facility, text editor for writing programs, 'print to screen' option etc.
- ▲ Lets you work with two documents at once
- ▲ You can do all of CP/M's functions without leaving Protext
- ▲ Very fast at moving around, doing exchanges and so on
- ▲ Extremely powerful and flexible mailmerger
- ▼ Forces you to learn another new set of control keys to use it
- ▼ Not as slick as LocoScript in its printer controls

ANSIBLEINDEX

£29.95 • Ansible Information • 0672 62576 — Easy to use

Takes a LocoScript file and compiles an alphabetical index with page numbers from all the words marked. You mark the word to be indexed by using LocoScript's (+RV) code. The price includes the AnsibleCheck word counter/proof reader program too, which is also available separately at £14.95.

PLUSES · MINUSES

- ▲ LocoScript documents don't have to be converted to ASCII
- ▲ Can 'invert' phrases, eg 'Smith, Fred' or 'Fred Smith'
- ▲ Can produce a single index over several different files
- ▼ Output index not LocoScript document – must convert it
- ▼ Can only Index words appearing literally, not general topics

EASY LABELLER

£34.44 • M.A.S.S. • 0603 630768

Labelling program which stores your names and address list and will print out in label format selected items from it.

PLUSES · MINUSES

- ▲ Useful options like printing out current date
- ▲ Good search facilities
- ▲ Range of printing options will fit most stationery
- ▼ Data needs an entire disc to itself
- ▼ Data entry is slowed by constant returning to main menu

LOCOSCRIPT 2

£24.95 • Locomotive Software • 0306 740606 — Good Value

As bundled with new 9512, the new version of everyone's first word processor. If you know how LocoScript 1 works, you'll have minimal relearning to do, and it puts right (almost) all the defects of the old version at a rock bottom price. Greek and Cyrillic alphabets, and even lets you define up to sixteen characters of your own design.

PLUSES · MINUSES

- ▲ 'Find page' command makes moving around faster
- ▲ Superb range of foreign accents and symbols available
- ▲ Can now drive daisywheel and other printers
- ▲ Has DISCKIT's formatting and copying built into it
- ▲ New 300-page manual
- ▼ Mailmerger and spelling checker not included
- ▼ Inconvenient for regular CP/M users
- ▼ Still no word counter!
- ▼ Still slow at Find, Exchange and scrolling

LOCOSPELL

£19.95 • Locomotive/Amsoft • 0306 740606

The ultimate spelling checker for LocoScript users. It is run as a simple menu choice while you are editing a document normally, and you can check either an entire document or only a paragraph. When it finds an error, it suggests a correction. Reasonably fast, given LocoScript's inherent sloth.

PLUSES · MINUSES

- ▲ Runs totally from within LocoScript
- ▲ Can do small sections of a file
- ▲ Suggests alternatives for misspelt words
- ▲ Reformats the text as it makes corrections
- ▲ Provides the much-missed LocoScript word counter
- ▼ Can't remove spellings you don't like
- ▼ The manual gets bogged down sometimes
- ▼ Slow at scrolling the dictionary window

LOCOMAIL

£29.95 • Locomotive/Amsoft • 0306 740606 — Useful

As a mailmerger for LocoScript, it's difficult to see how anything could be better than this. It runs directly from LocoScript, and can process any LocoScript commands. Has many advanced features and is highly recommended for all LocoScript users.

PLUSES · MINUSES

- ▲ You don't have to run it from CP/M
- ▲ Can print any LocoScript text formatting commands
- ▲ Can automatically rejustify paragraphs after insertion
- ▲ Can insert numeric calculations into letters
- ▲ Can read data from non-LocoScript (ie. ASCII) files
- ▲ Large manual, with example files on disc
- ▲ Powerful selection procedures - like a database
- ▼ Need separate program to sort and filter addresses before a print run

PROSPELL

£29.95 • Arnor • 0733 68909

A stand-alone spell checker for use with almost any wordprocessor that runs on the PCWs. Reads LocoScript, WordStar and ASCII files, and allows you to make corrections directly, view the context, change the dictionary etc. Specify which machine when buying.

PLUSES · MINUSES

- ▲ Checks LocoScript and WordStar documents directly.
- ▲ Displays the context of a suspect word
- ▲ Can edit misspellings directly from Prospell
- ▲ Anagram and crossword solvers too
- ▼ Processes files of 15K or more in sections

POCKET WORDSTAR

£49.95 • MicroPro/Davis Rubin • 0386 853610

For many business users, word processing means Word Star. Almost everything you could need in a text processor is here and despite the title this "Pocket" version has all the features of the original. Efficient and proven, but now showing its age and there are alternatives unless you are committed to WordStar already. £20 extra buys the De Luxe version with spell checker.

PLUSES · MINUSES

- ▲ Probably the world's most widely used word-processor
- ▲ Documentation is complex but well-structured
- ▲ Includes a mail merge utility
- ▲ Keystroke commands fully described on on-screen menus
- ▼ Doesn't make full use of the PCW keyboard and printer
- ▼ Page and margin formatting commands awkward to use

GOOD SOFTWARE GUIDE

NEWWORD

£69.00 • NewStar Software • 0277 220573

NewWord exploits the WordStar market by doing the same job better. It uses much the same key commands as WordStar and will even edit documents prepared under WordStar. Comes with a spelling checker, and the on-screen help is better than WordStar's, though the keystrokes are still as obscure

PLUSES • MINUSES

- ▲ Does everything WordStar does, even reads WordStar files
- ▲ Spelling checker included
- ▲ Can un-erase words and lines
- ▲ Onscreen help better than WordStar's
- ▲ Full reformatting of text within mailmerger
- ▼ Weak on use of keypad and printer support
- ▼ Like WordStar, formatting troubles and obscure commands

LABEL PRINTER

£25.00 • Microdraw • 0622 685481

Very similar program to Easy Labeller if not quite as powerful. Usual features of a labeller and you can store comments with each label's data.

PLUSES • MINUSES

- ▲ Menus simple – easy to get the program going
- ▲ Fast data entry
- ▲ Can store comments with each entry
- ▼ No import or export of data
- ▼ Data needs an entire disc to itself

LOCOKEY

£14.95 • Locomotive Software • 0306 740606

This successor to LocoChar is a keyboard customiser which means that any key can be made to produce any letter. The program will reproduce any one of the sixteen LocoChar-defined characters.

PLUSES • MINUSES

- ▲ Enables customisation to any distribution of keyboard letters
- ▲ Handles any combinations of accent and character
- ▼ Will only be of limited use

MONEY MANAGER PLUS

Easy to use

£39.95 • Connect Systems Ltd • 01 743 9792

The souped-up version of the personal accounts package Money Manager which would serve a small business quite nicely. It acts as a daily diary, over 12 months, recording all incomings and outgoings between up to 9 accounts. Similar transactions can be grouped together, and simple reports can be printed. Money Manager also available for £24.95

PLUSES • MINUSES

- ▲ Simple to use, need no accounts or computer knowledge
- ▲ Standing orders can be defined for each month
- ▲ Detailed and summary statements can be printed out
- ▲ VAT reports can be separated out
- ▲ Can present results as bar charts
- ▼ No audit trail integrity
- ▼ The statement format is not very flexible
- ▼ Transfers between accounts are not cross-referenced

VITAL PROCESSOR SERIES

£29.90 each • Vital Software • 0732 810330

Series of three programs designed to help you look after your money and your assets. The Savings Processor is ideal for someone with a portfolio of stocks and shares; it tells you your 'net worth' like a balance sheet. The Insurance Processor helps you make an inventory of all your possessions and put a value on them, while the Income Processor helps you keep tabs on your incomings and outgoings.

PLUSES • MINUSES

- ▲ Income Processor allows you to budget efficiently
- ▲ Insurance Processor can complete inventories room by room
- ▲ Savings Processor is a fast and efficient way of keeping track of share values
- ▼ You have to be keen to do all the research
- ▼ It can be time-consuming
- ▼ With the Income Processor, it's difficult getting all the information you need from the manual
- ▼ It's not always clear how some of the operations work

CHECK ACCOUNT II

£14.95 • Molesoft • 03722 75053

Written specifically for the home user, this program maintains four accounts per disc in familiar bank-statement form. Its analysis feature shows trends and forecasts how much you can afford to spend. The interest-estimating feature can keep track of Building Society accounts where interest earned varies with the amount deposited.

PLUSES • MINUSES

- ▲ Designed solely for home accounts
- ▲ Easy to learn from demo file
- ▼ Relatively slow screen update
- ▼ You have to be organised to keep it up to date

DIGITA BUSINESS CONTROLLER

Easy to use

£69.95 • Digita International • 0395 270273

Not a full accounting system, but a very easy-to-use package with an excellent manual. Nominal ledger already set up and you can be up and running in minutes. No aged credito/debtor lists can be produced, and problems with VAT handling– not really for VAT businesses. For other small business it's very good value.

PLUSES • MINUSES

- ▲ Delight to use with a very good manual
- ▲ You can get the system working in minutes
- ▲ Financial ratios can be included in reports
- ▼ No facility for producing aged debtors/creditors list

BOOK-KEEPING AND ACCOUNTS

£69 (with invoicing, £80.50; with invoicing and stocks, £92) • Manx Tapes • 0624 813071

Recently updated suite of programs advocating a very traditional style of double-entry book-keeping. Useful demonstration disc also supplied with more than 200 example accounts.

PLUSES • MINUSES

- ▲ Solid, traditional approach to double-entry book-keeping
- ▲ Program doesn't make full use of the PCW
- ▼ Screen prompts not always that helpful
- ▼ Written in BASIC, so prone to sluggishness

COMPACT ACCOUNTS

£149.00 • Compact Software Ltd • 0703 611214

Another very large integrated package supplied on several discs and consisting of sales, purchase and nominal ledger together with invoicing. The package is available on much larger micros, and since the format in which data is produced is the same as on PCWs, the system is particularly suitable for users planning to upgrade their hardware at a later date.

PLUSES • MINUSES

- ▲ Audit trails are an auditor's dream
- ▲ Data can be used in WordStar, Multiplan or SuperCalc 2
- ▲ Superb prepayment facility
- ▲ Can run a number of companies separately
- ▲ Easily transported to bigger computers
- ▼ Lots of disc swapping necessary
- ▼ Can be slow to use – it runs in Mallard Basic
- ▼ Quirks in cash allocation routine and account code system

M.A.P. INTEGRATED ACCOUNTS

Powerful

£125.00 • MAP Systems • 061 624 5662/3

This is a very powerful package moved onto the PCW at a fraction of its cost on larger micros. The size makes it a little cumbersome to use, but apart from that there are very few significant problems. The integrated suite includes the same five modules as Camsoft, but they are supplied on four sides of disc, making it effectively impossible for the software to be run as an integrated system on an unexpanded 8256.

PLUSES • MINUSES

- ▲ A very comprehensive and professional package
- ▲ Very good audit trails
- ▲ Sales/purchase ledgers can run over different periods
- ▲ Facility for handling prepayments and accruals
- ▲ Able to print full management accounts
- ▼ The size of the programs means lots of disc swapping
- ▼ All normal responses need to be in upper case

CORNIX SIMPLE ACCOUNTS

£49.95 • Cornix • 0462 682989

Simple cash-book style package which allows you to keep track of debtors and creditors (though not aged ones). Simple to use and you can make changes if you make a mistake. Slow to use for complex operations and number of entries in given period is limited, but very good simple program for small businesses.

PLUSES • MINUSES

- ▲ Simple, easy-to-use program
- ▲ Can correct errors
- ▲ Keeps track of debtors and creditors
- ▼ Slow for complex operations
- ▼ Ability to alter figures won't please accounting purists

CAMSOFT PSIL

£149.95 • Cambrian Software • 0766 831878

Consists of five integrated packages: Sales, purchase and nominal ledgers, invoicing and stock control. In terms of sophistication it falls somewhere between the Sagesoft package and the larger systems from MAP and Compact. But it's easier to run than the larger packages since all the software can be squeezed into the M drive. Good package for a small company.

PLUSES • MINUSES

- ▲ Already set up for 8256 or 8512
- ▲ No need for pre printed stationery
- ▲ Excellent sort and search facilities
- ▲ Invoices shown on screen as you create them
- ▼ Constant need to input full five-digit account codes
- ▼ No final accounts reports available on nominal ledger
- ▼ No facility to run the ledgers in different accounting periods

IN BUSINESS

£149.00 • Cavalier Software • 01-639 6683

A comprehensive integrated package. Comprises 'intact' accounts and 'instock' stock control, available separately for £59.95 each. Well designed, easy to run and powerful enough for most businesses

PLUSES • MINUSES

- ▲ Other packages (eg: 'Teleadd' address book) can be added
- ▲ Comprehensive range of features when used as a package
- ▲ Sophisticated pricing and order features in Instock section
- ▲ Flexible accounts, traps most mistakes, useful summaries
- ▲ Interesting forward planning facility in stock control
- ▼ Manual gives you a confusing number of options

SMALL BUSINESS ACCOUNTS

£69.95 • NewStar • 0245 265017

Using the split-screen method, the prompt-driven program leads you through the hazards of double-entry book-keeping as painlessly as possible. Again, very useful demonstration files supplied with the program. It also handles VAT easily.

PLUSES • MINUSES

- ▲ Excellent system of screen prompts
- ▲ Good demonstration files
- ▲ One of the easiest double-entry systems for the novice
- ▼ Manual is really for the PC

SAGE ACCOUNTS

£87 • Sagesoft • 091 2131555

Best general buy

An integrated accounts package consisting of purchase, sales and nominal ledger. For another £50 you can buy Accounts Plus which also has invoicing and stock control. Aimed at small companies with the emphasis on ease of setting up. But a number of limitations, eg, the package cannot cope too easily with rapidly increasing numbers of customers and suppliers.

PLUSES • MINUSES

- ▲ Clean, tidy and logical screen layouts and menus
- ▲ Easy to set up and use with excellent documentation
- ▲ Good audit trails and VAT reports
- ▲ Can produce formatted trial balances
- ▼ Restrictive account numbering system
- ▼ Only single Nominal ledger and VAT analysis per item
- ▼ Does not cater for settlement discounts
- ▼ Won't print remittance advice slips
- ▼ Cramped on 9512 printer – need 17 pitch dalsywheel

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GOOD SOFTWARE GUIDE

M.A.P PAYROLL

£60 • MAP Systems • 061 624 5662

PLUSES • MINUSES

- ▲ Can amend and re-run at any stage (even after printing)
- ▲ Cash analysis is broken down into departments
- ▲ System prevents re-use or amendment of leavers
- ▲ Can hold up to 40 standard hourly and weekly wage rates
- ▼ No SSP calculation facility (but can record all amounts paid)
- ▼ Programs necessitate a lot of disc swapping
- ▼ No printed record of automatic tax code changes

SAGESOFT POPULAR PAYROLL

£61 • Sagesoft • 091 2131555

PLUSES • MINUSES

- ▲ Any or all employees payroll can be rerun at any stage
- ▲ Full pay history available for all employees and leavers
- ▲ Calculates average pay for holidays etc
- ▲ Very easy to install
- ▼ Limited number of additions/deductions
- ▼ Doesn't print a list of cheques
- ▼ No analysis of additions/deductions

COMPACT PAYROLL

£99.95 • Compact Software Ltd • 0703 611214

PLUSES • MINUSES

- ▲ Supplied with test data
- ▲ Facility to change employees tax codes following budget
- ▲ Can run payroll for several companies
- ▲ Program available for PC compatibles – data transportable
- ▼ Must be run from the master discs
- ▼ Needs input form and check calculation for each employee
- ▼ Once payslips are printed nothing can be changed
- ▼ Most expensive payroll program

CAMSOFT PAYROLL

£49.95 • Cambrian Software • 0766 831878

Easy to use

PLUSES • MINUSES

- ▲ Full payslip displayed on screen, any item can be amended
- ▲ Facility for freehand narrative on any payslip
- ▲ Uses M drive for programs to speed operation
- ▲ Built in on-screen help facility
- ▲ Search-sort routine for output to screen, printer or disc
- ▲ Uses alphanumeric employee codes
- ▼ Screen menus a bit untidy and sometimes difficult to follow
- ▼ No listing of cheques

Utilities

BRAINSTORM

£29.99 • Brainstorm Software Ltd • 0895 677845

A new improved version, reconfigured for easier use on the PCW. Works as an 'ideas processor'; you throw your ideas in any order and then use the program to rearrange them and impose a structure.

PLUSES • MINUSES

- ▲ Quick and efficient and easy to use
- ▲ Encourages structured thinking
- ▲ Versatile; many different editing facilities
- ▲ Results can be fed into a word processor for polishing up
- ▼ Namesakes must be exact matches
- ▼ Manual is on disc, so you can't consult while using BrainStorm unless you print it out

PCW DRAW

£39.95 • HTB Computing • 0794 516279

Draughting package written specifically for the PCW machines. Program is teaming with features - built-in shapes and tree-hand drawing facility - which, used with practice and imagination, could provide professional-looking output.

PLUSES • MINUSES

- ▲ Very comprehensive text entry and printout format options
- ▲ ZOOM facility allows you to edit small sections of a draught pixel by pixel
- ▲ Many useful functions: different line thicknesses, hatching ..
- ▼ ZOOM facility can't be printed out alone
- ▼ No editing of DETAILS file might prove restricting
- ▼ No support for plotting devices like mouse or light-pen
- ▼ PCW Draw doesn't consider the PCW's screen aspect ratio: on-screen drawings look twice as high as wide

PCW TOOLKIT

£19.95 • Moonstone Computing • 041 941 3120

A user-friendly data recovery package for the PCW. Provided you can find the contents of the damaged file, roll out a new one, sector by sector, on M.Lsing PASTE.

PLUSES • MINUSES

- ▲ Perfect for the complete novice
- ▲ Clear, confidence-boosting manual
- ▲ Can recover data varying in amounts from a few bytes to a complete disc.

PRO-PERFORMER

£59.95 • Electromusic Research • 0702 335747

The only real musical add-on for the PCW. Easy to use software runs on CP/M, has a wide variety of powerful features and is icon-driven. Sophisticated recording facilities and the program will allow you to save compositions as tracks, songs or performances. Ideal for pop and classical musicians

PLUSES • MINUSES

- ▲ Icon-based screen
- ▲ Can record lines independently or in an arrangement
- ▲ Punch-in editing facilities
- ▲ Facility for slow recording and fast playback
- ▲ Step-time recording for strict in tempo lines
- ▲ Tracks can be looped (made to repeat)
- ▼ Manual glosses over arrangements
- ▼ Can't edit notes individually
- ▼ No musical notation anywhere

JOB ESTIMATING & PRODUCT COSTING

£79.90 each • Cornix Software • 0462 682989

Both programs aim to provide help to small businesses by keeping track of costs. You break down the product you're costing or the job you're doing into a series of costing lines - recording quantity and price per component. Program analyses profit margins and can produce customer printouts.

Useful

PLUSES • MINUSES

- ▲ Excellently-written manuals
- ▲ Simple and robust to use
- ▲ Changes in material costings instantly reflected n all quotes
- ▲ Neat way of doing on-the-spot quotes
- ▼ Only suitable for small to medium-sized businesses
- ▼ Can't add new components to a description

TEMPDISC 8.2

£18.95 • Thurston Techniques (0395 277496) • 8512s only

Disc of ready-made templates to be used inside LocoScript.2. All you have to do is find the particular template to suit your requirements and then fill in the details. Vast selection of borders is excellent for personalising labels and envelopes.

PLUSES • MINUSES

- ▲ Has included files to complement LocoMail's invoicing facilities
- ▲ Very easy to use
- ▲ Vast range of templates available
- ▼ Not so good if you don't like lots of visual trimmings

FORMS BOX COMPENDIUM

£19.95 • Disc Design • 0522 40940

Fully compatible with LocoScript 1 and 2, this disc provides 70 different kinds of forms for home and office use. You can either fill them in on the screen, save and print them out or print them out and fill them in later. A solid, no frills product.

PLUSES • MINUSES

- ▲ Very easy to use
- ▼ Will only print out on A4 size paper

POOLS PREDICTOR

£15.99 • Corwen Computing • 0490 2902

This program helps you select the numbers to cross on your pools coupon taking its recommendations on the recent form of each team or simply on the basis of sequence prediction (going on the numbers which have provided draws in the past).

PLUSES • MINUSES

- ▲ Very easy to use
- ▲ More accurate than the newspaper pundits
- ▼ Entering form results from week to week is tedious

LOCOFONT I

£19.95 • Locomotive Software (0306 740606) • 8000s only

A selection of new fonts to help you break out of the standard LocoScript typeface. There's a very good selection of styles to choose from, 'handwritten' styles look very good as do the Copperplate and Script styles. The Roman and Standard fonts are more practical. The new characters are reproduced very well indeed. A further six fonts are available, including Old English and flowing script, on LocoFont II for £14.95

PLUSES • MINUSES

- ▲ Eight new fonts, one coming for free
- ▲ Each style supports all accents, characters, etc
- ▲ Relatively cheap and easy to use
- ▲ Can break out of that one pattern printout
- ▼ Can't mix styles in one document
- ▼ Limitations of a 16 dot pattern means that the quality cannot be brilliant

TAS-SIGN

£29.95 • Tasman Software • 0532 438301

Takes time to print out but you can print signs of up to five lines of text up to seven inches high with up to 32 characters in each. Four fonts, eight hatching patterns, and you can print lengthways on continuous paper for long signs.

PLUSES • MINUSES

- ▲ Wide range of fonts and shadings
- ▲ Long signs will print out in 'landscape' (sideways) format
- ▼ Long signs take time
- ▼ Some symbols (yen signs etc) won't print out on PCW

GILLIGAN'S GUIDE

£25 -£30 • NG Gilligan • 0629 56347

A geographic information program based on the Ordnance Survey system. Concentrates on a given area loosely 15 square miles; it will list all the places included on the map in alphabetical order with their grid references. Also gives you information about the sites and will locate them on the map. You can also interrogate the system so that it only gives you details and locations ofsites of special interest.

PLUSES • MINUSES

- ▲ A thorough, versatile and easy to use package
- ▲ System can be interrogated in a number of interesting ways
- ▲ Breaks sites down into areas of specific interest
- ▲ You can commission you own made-to-measure guides

STAR TRACK

£14.95 • Discovery Software • 01 840 5252

A fun and infoamative program with which you can display on your computer screen all of the 88 constellations and 600 or so stars that are recognised by today's astronomers. You can also see how their positions in the sky change depending on your location (which could be anywhere in the world) and the time (any time between 1000 and 2999 AD).

PLUSES • MINUSES

- ▲ Excellent manual with helpful practice exercises
- ▲ Comprehensive list of ready-made latitudes and longitudes supplied
- ▲ Cycle option transports you forward a month at a time so that you can chart the stars' progress
- ▼ Screen displays could be more exciting
- ▼ Moon and planets aren't included

DATA DIARY

£16.95 • A4 Ideas • 0249 815082

More PCW-generated diary inserts for use at home or in the office. The program works from within LocoScript so you can make use of all LocoScript 2's text and style enhancements. Inserts feature year to a page calendars, month at a glance planners and page a day formats.

PLUSES · MINUSES
▲ Buy it at any time of the year and you will be supplied with next 12 months' supply
▲ 2 versions available - for A4-size and Filofax-size printout
▲ A solid, no-frills product that's easy to use

INVESTOR

£29.95 • B & BB Software • 0240 242946

Program has been designed to assist the share-owner in the management of a portfolio and to help in the choice of shares to buy and sell. It allows up to 300 stocks, shares or unit trusts to be kept in its library. Stocks are listed in order of ther performance and you can call up graphs of price movement for individual stocks.
PLUSES · MINUSES
▲ Manual is very easy to follow
▲ Records share-holdings, dividends and cash accounts
▲ Dividend printout for tax purposes
▲ Four methods of share price analysis
▲ No ability to calculate taxable gains
▼ Graphs are small and lack expansion facility
▼ 9512 owners won't be able to print out the graphics

PERSONAL TAX PLANNER

£24.95 • Digita International • 0395 270273

Simple program which asks you all the questions relevant to your year's tax affairs, and prepares your tax return claim (or bill) Can, for example, find out whether married couples would be better assessed separately or not. Annual updates available.
PLUSES · MINUSES
▲ Simple to use
▲ Needs a minimum knowledge of the tax law
▲ Forces you to keep your tax details in one place
▼ Limited application – might only use it once a year
▼ Can't handle unusual cases
▼ Program updates (for a new allowance level) cost £10

KNIFE PLUS

£19.95 • Hisoft • 0525 718181

An essential tool for retrieving data from corrupted discs. Knife Plus will copy all uncorrupted sectors on to a fresh disc which you can then patch up without risking the original
PLUSES · MINUSES
▲ Copies all uncorrupted data from damaged discs
▲ If boot sector damaged, will copy good boot sector onto disc
▼ Requires some knowledge of basic disc structure
▼ Manual not written for beginners

WISE ONE

£34.95 • Swallowsoft Publications • 0420 63793

An expert system – you input rules and information and Wise One becomes an 'intelligent' program which can, for example, do simple diagnoses according to symptoms you type in. From PO Box 107, Walton on Thames, Surrey KT12 5PQ.
PLUSES · MINUSES
▲ Power to be genuinely useful
▲ Elementary arithmetic
▲ Help screens can be set up for the user
▼ Obscure way of writing rules – need programming instinct
▼ Manual dry and academic

FLIPPER 2

Useful

£29.95 • Software Imperative (0453 886931) • 9512/8512 only.

Can do everything the original Flipper did and more. You can now flip Mini Office and LocoFile and will have no problems with whatever version of LocoScript you're using.
PLUSES · MINUSES
▲ Easier to install than its predecessor
▲ Can flip between environments in as little as 2 seconds
▲ Professionally-presented documentation
▲ Works with most CP/M programs, LocoScript and BASIC
▼ Still won't work with many self-loading games
▼ Be careful of state of printer and disc drives when flipping.

SUPER TYPE II

£14.95 • Digita International • 0395 270273

A program for users of LocoScript and CP/M programs, which modifies the fonts used by the PCW printer SuperType has 4 'business' and 'novelty' fonts. It works by directly altering the relevant files for LocoScript or CP/M, so you only need run it once – after that, the new chosen font is available
PLUSES · MINUSES
▲ Once installed, you can totally forget it's there
▲ Genuinely useful range of fonts available
▲ All LocoScript's print size and style options still work
▼ You can't mix different fonts in the same document

DAATAFAX

Basic version £39.95 (with Microfile £49.95/with mouse £79.95) • Kempston Data • 0908 677886

Used with personal ring-binder, it helps you keep track of names, addresses and appointments. Prints out data in a form that will fit the average organiser.
PLUSES · MINUSES
▲ Flexible and easy to use, saves buying inserts
▼ Not very sophisticated: keeping it up to date is tedious

DTP

Desktop publishing – or DTP – packages enable you to produce your own newsletters using your PCW. They come with a variety of fonts of a range of sizes for headlines and body text and a selection of graphics to include in your creations You read in your articles prepared by a word processor into text boxes. If you can't edit the text from within the program, you have to go back to your word processor to fine-tune the article to fit – this is very tedious. Then you put your graphics in graphics boxes, make up your headlines, and then lay out your publication on the PCW by juggling the position of your boxes on each page. Finally you can get a copy of each page on your printer (though not if it's a daisywheel, of course, as on the 9512) and photocopy the results.

The results won't be of sufficient quality to compete with the professionals, but for club and company newsletters, leaflets, posters and small publications, DTP could be invaluable.

FLEET STREET EDITOR PLUS

£49.95 • Mirrorsoft • 01 928 1454

The most versatile and powerful package. You can create template-like 'page dummies' if you use several pages of the same format, and handling of text, setting of margins and size of text boxes etc, is well controlled. Tends to stop working abruptly for no reason though and uses memory space extravagantly.
PLUSES · MINUSES
▲ Versatile integrated package
▲ Text handling and editing sophisticated and controlled
▲ Can set up page dummies for regularly used formats
▼ Crashes occasionally
▼ Odd use of memory in text editor
▼ Still lots of serious bugs even now

NEWSDESK INTERNATIONAL

£25 (with lightpen £50) • The Electric Studio • 0462 420222

Versatile package with a very wide range of graphics facilities and high quality headline text Page make-up is flexible, though the program can be a bit cumbersome, mainly in text handling Same graphics facilities as Electric Studio's 'Art' package which it supersedes
PLUSES · MINUSES
▲ Good control over the elements on the page
▲ Powerful graphics facilities
▲ Good quality print in headlines and large fonts
▲ Can use font editor to create your own high quality fonts
▼ Text handling slow and cumbersome
▼ Not easy to undo mistakes

STOP PRESS

£49.95 • Database • 0625 878888

An excellent DTP Package, very strong on graphics, very well designed, and once you get used to it, easy to use Sophisticated text handling features such as autoflow, but can't edit text – that all has to be done in your word processor before flowing the text in. A lot of good fonts supplied too
PLUSES · MINUSES
▲ Excellent graphics facilities, good as any graphics program
▲ Wide range of text styles
▲ Menu and key commands system suits beginner and expert
▲ Text autoflow
▼ No text editing ability
▼ Some quirks in text handling – apostrophes, spacing, etc

THE DESKTOP PUBLISHER

£29.95 • Database Software • 0625 878888

Tremendous value for money. Graphics and text boxes can be easily moved around and page layout is clear. You can edit text from within the program, using LocoScript-like commands to set bold and italics. Good range of fonts and graphics too, at half price of its rivals! Mouse optional for £50 more.
PLUSES · MINUSES
▲ Text editor allows you to edit articles to fit the space eaily
▲ Boxes and general layout easy to manipulate
▲ Works with three mice, but fine with keyboard alone
▲ Half the price of other packages
▲ Good range of fonts and graphics, and can design your own
▼ Can't fit size of text boxes – they expand to take all the text
▼ Headlines can look a bit jagged

NEXT MONTH

The guide continues with DATABASES, COMMUNICATIONS, EDUCATIONAL PACKAGES and PROGRAMMING. After that it's SPREADSHEETS, GRAPHICS and GAMES and the month after that it's back to this month's categories.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available form our Somerton address at £1.75 each.

Meanwhile, if you are aware of any significant errors or omissions in the Files as published, please let us know. We want to maintain it as THE authoritative guide to PCW software.

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dATaDIARY

LocoScript 2. 8/89-8/90 OR 1990. A4-format OR Filofax: **£16.95** each **£28.90** pair: (SAE for details): A 4-IdEAS, The Old Forge,
66 Curzon Street, CALNE, Wilts, SN11 ODL.

★★★★★★★★★★★★

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021-633 3810

★★★★★★★★★★★★

PCW SOFTWARE FOR SALE.

LocoScript 2, LocoSpell and LocoFile. New Unused.
Cost £74.85. Bargain at **£45.**
Call Ian on **0491 874408** evenings.

★★★★★★★★★★★★

LEARN

LocoScript, LocoMail, LocoFile, dBase and Supercalc the easy way, from friendly professional lecturer.
Ring Leslie on **0293 776683** (Surrey).

GENUINE REASON FOR SALE:

Amstrad PCW512 Complete with daisywheel printer / extra print-wheels. Many extras: LocoFile, Stop Press DTP/Mouse, Mini Office, 8000+ Back issues. **£450**
Phone Brighton **(0273) 693000**

★★★★★★★★★★★★

CHEAP 288 OUTFIT

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★★★★★★★★★★★★

SUPERB POOLS PREDICTOR

and league table generator
Can be used for many sports, not just soccer.
Details SAE to Ian Muffett,
531 Roughwood Road,
Rockingham Estate, Rotherham,
South Yorkshire, S61 44X

★★★★★★★★★★★★

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Wallasey, Merseyside. L44 4DE

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FOR SALE

Amstrad portable with monitor and modem. Model no. PPC 640. D/Disk and 640K.
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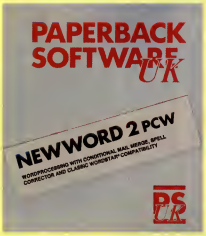

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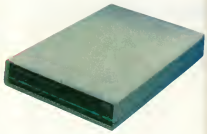

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from Amstrad Plc

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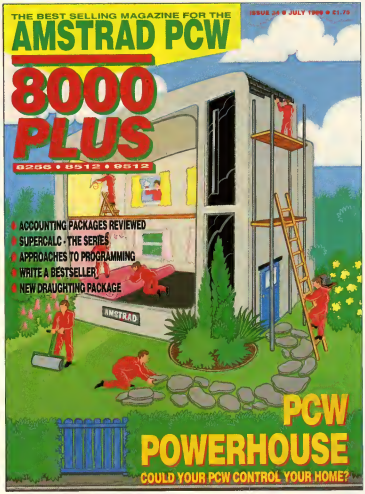

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POST SCRIPT

Creative communications cagily considered by a cacographic Ed

Yes, the pick of the post and with just about every subject under the pun. No matter what you've done you can tell us about it, so write in with your PCW points and pertinent pejoration. Get those pens to paper and post the results to 4 Queen St, Bath, BA1 1EJ. Don't delay, write today.

Very serious letter

I am just writing to add my support to D M Minterne, re his letter in the June issue of 8000 Plus about your 'jokey' headings; after all this is a very serious subject, if not a life and death matter. I personally think all future letters should be published in Latin just to emphasise how serious we are. Could we also have all future listings in machine code please and no more games, but instead exciting programs to accurately predict Brownian Motion, and the increase in a body's weight as it approaches the speed of light.

To add insult to the grievous injury already done to D M Minterne you then captioned his article with a very flippant 'No fun any more'. Surely a better caption would have been 'A very serious letter on a matter of the utmost gravity'?

G Crerar Esq
Tadcaster
North Yorkshire

8000 PLUS A man after my own heart. Next month we shall devote 14 pages to an in depth analysis of the PCW Bios with special emphasis on the code to access the expansion port. Enjoy (as our American cousins persist in saying).

Let's interface on this

Is there any way the Psion XP can be interfaced with the PCW8512? The little Psion is just what I need for a database for day to day use as I travel from call to call, but obviously the PCW would add much extra convenience and more facilities.

M J Hawthorne
Stockport
Cheshire

8000 PLUS Yes, this is possible, and in fact we are going to take a look at a few pocket computers with a view to using them as fully mobile PCW extensions.

Critical success

For some time I have been amused by the letters containing piffling criticism of the standard of the recent editions of 8000 Plus.

Like a recent correspondent I too have been a subscriber from issue 1 and it was reading issue 1 while browsing through the magazines in the large news agents that persuaded me to purchase the PCW8512. This was my first experience of computing, and I have over the past years been not only satisfied with the machine, but also by the invaluable support provided by 8000 Plus. It may not be appreciated by the technical types who read the magazine that there are those of us who find technical matters difficult to grasp, and who are encouraged by the tongue in cheek type of humour which has become so much a part of the 8000 Plus approach.

I subscribe to the magazine to be entertained, advised, and educated in matters concerning the PCW. I suspect that many many more readers also subscribe for the same reason, so please keep it light, informative and even sometimes a little fun.

Roy Holt
Lower Stondon
Beds

8000 PLUS If we are succeeding in entertaining, advising and educating (surely not all three at once, can we keep up the pace?) then the 8000 Plus cadres may well be allowed Sunday afternoons off before long.

Dicky discs

I have just been reading the June Postscript and F James Pickett's letter about faulty 9512 ICs that boff up discs. I got my 9512 on 10 March 1989, and ever since I started buying more discs and using CP/M Plus I've been bugged with errors. Every time I use the formatting process on Diskit and it gets past track 110 it starts to get tough. The drive makes awful noises and the red light flashes on and off. Several times it tells you that there is no data, missing address marks. The disc works OK afterwards, but if I use the disc a lot sometimes it boffs up.

I've tried formatting the same disc twice and found that errors occur in different tracks and sectors for every format process. The Maxell discs seem to be worst.

Also, could you tell me how to format both sides of a disc. Using Diskit, I format both sides. But as soon as I format the opposite side which I formatted before has had its address mark pinched. Is it in the drive perhaps? Help!

Andrew Roberts
Cheltenham
Glos

8000 PLUS This doesn't sound like IC problems to me, more a bad disc drive; it should be replaced under warranty. Drives on a 9512 (and B drives on the 8000 series machines) have a double headed disc drive that reads and writes to both sides of the disc at once. Only one format required. But now to the interesting question – what is this boffing stuff?

Comms natural

It was pleasing to read your article on page 26 of the May edition about our Bulletin Board. It was especially satisfying to be "featured".

The article was a very good introduction to using a BBs, but I would have been grateful if you could have found space to give your readers our telephone number 0753 868196 (and for the technically inclined, 8-N-1) so that they could have a look for themselves. All are very welcome.

Peter Catley – SYSOP
The CP/M & MSDOS Users' Group Bulletin Board, Windsor Berkshire

8000 PLUS Oh well, look on the bright side, at least we didn't get the number wrong.

Reel sorry

Please will you correct the impression you gave last month (Postscript - Better late than never) that the Reeltime Complete Introduction is a video. It is not. Each complete introduction is a fully interactive training course pre-recorded onto audio tape and disc.

Jim Gatten
Marketing Director
Head-Line Communication

8000 PLUS It's a fair cop, I admit it, guv. I was thinking of the wrong product and happily concede that an audio training system makes much more sense. Obviously, looking at the screen while listening is better than trying to look at two sreens.

Expert advice

I have a 9512 which I use for correspondence, for which I need the accompanying daisywheel printer. I also write books, and I need to print out the whole manuscript on completion, rather than chapter by chapter as it is written.

The feature article on dot matrix printers in your June issue implies that I may suffer the break down of the daisywheel printer during this operation, and that I should consider buying an additional dot matrix printer. I hope this is not in fact so, but would welcome your advice. If you think it is advisable to buy another printer, which would you recommend? Finally, could I connect the additional printer myself or should this be done by an expert?

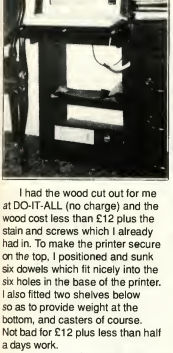
G L Wathen
Rutland
Leics

8000 PLUS Daisywheel printers are less reliable than dot matrix printers and are certainly more likely to break while in use (most equipment will last much longer if kept unused). The article was not intended to worry you, or anyone else, and the comments at the beginning were merely to point out some of the reasons for purchasing an alternative printer.

As to which printer you should buy, that's really your decision, but if it's of any interest I bought a Star LC-10 myself. You need no special skills to attach a second printer (presumably you managed with he first one and the process is very similar).

Wooden be without it

Reference the article in last month's magazine 'Bench Mark'; I was highly delighted to see that someone has really achieved perfection in wood for the ease of the computerist. I can vouch for its excellence because I did the same about a month ago. However, I did go one step further, in order to make it match the furniture and my desk, I stained the wood in mahogany.



I had the wood cut out for me at DO-IT-ALL (no charge) and the wood cost less than £12 plus the stain and screws which I already had in. To make the printer secure on the top, I positioned and sunk six dowels which fit nicely into the six holes in the base of the printer. I also fitted two shelves below so as to provide weight at the bottom, and casters of course. Not bad for £12 plus less than half a days work.

G and M L Pickup
Morecambe
Lancs

***8000 PLUS** That article generated a lot of interest, which shouldn't have come as a surprise. PCW owners are the sort who like to get things just right, including the furniture. Of course, a lot of people really need desktop space and even drawers to work properly. Should there be a follow-up article? Has anyone got a set of plans for a complete, easy to build, desk?*

Pirates ahoy

After reading the article by Mr Coote (issue 33) I was left with the impression that his well thought through design for a PCW stand and that of a company who advertise another stand shared, by coincidence, a parallel development. Both stands are, to understate, not unadjacent in function and appearance; in fact Mr Coote himself describes the commercial version as a 'clone'.

The fact that the commercial version has been advertised, to my knowledge, for the past two years raises some questions:

1/ Surely Mr Coote, a former lecturer in Craft, has some awareness of design protection?
2/ Surely 8000 Plus, a respected periodical, is aware of the copyright law?
3/ Surely it would have been fairer and clearer to have presented the article as a 'How to build your own....'?
4/ And don't call me Shirley.

I should point out that, other than being the satisfied owner of the commercial version and checking with the company that they don't know of Mr Coote, I have no connection with either party.

M S Cunningham
Greenwich
London

***8000 PLUS** Since no-one is trying to make off with Comstax's design in the commercial sense I don't think design protection really comes into it. As for Mr Coote being unaware of the product, while I, too, found it unlikely I saw no reason to call him a liar. I can only assume, Shirley, that however unlikely it seems, he buys 8000 Plus just for the editorial content and never reads the advertisements.*

Getting errortable

You know all those ERROR MESSAGES that you just love with their user-friendly quips such as B-DOS ARRAY DROP 3456 – REASSIGN, or whatever. Well, here's a chance for the humans to get their own back.

This competition asks for five ORIGINAL ERROR MESSAGES relating to simple everyday activities. Such as:

1 SHOE-DOS LINK LINE NO FUNCTION CALL (Meaning: Your shoelaces are undone)
2 X MOD UP CONNECT INCORRECT? (Now you've tied both shoes together)
3 FNF GRG ??????????? Face Floor Lower Base proximity Mismatch (You've fallen over).

And so on. The rules are simple. Competitors supply five imaginative error messages – nothing rude, offensive, libelous etc. Well not very. Together with their meanings, as in the examples above. The messages do not need to link together in any way, although they can. This is up to the writer. Judges' decisions as to impenetrability, appropriateness, humour or otherwise will be final. You never know, you might be able to sell them to IBM.

Charlie Harris
BRAIN HURT: INSERT AlcoHol XXXX Drive MLondon

***8000 PLUS** You could never sell IBM anything so sensible. As to competition ideas, we were planning to avoid anything too subjective – before we know where we are it will be prettiest reader in a bikini (8000 Plus is an equal opportunity employer).*

Two into one

As I am interested in buying a PCW with a view to using Stop Press DTP, could you advise me firstly, whether an 8256/8512 or 9512 is most suitable and what advantage would there be in two drives.

Mrs Angela Burke
Hounslow
Middlesex

***8000 PLUS** If you buy a 9512 then you will also need a dot matrix printer to print out your Meisterverks which will add considerably to the price. The advantage of a second drive on the 8512 is that it can hold 706k of data as against the top drive's 172k per side. In terms of Stop Press pages this is 12 pages in the B drive as against three pages in the A drive.*

Wish you weren't here

After a very long wait Mini Office Professional Plus is here. But 'Professional' it certainly ain't! Anyone who knows the original MOP will find any number of bugs in a very short time. My first took exactly 30 seconds. And the 'Special Edition' book relates to the original MOP – not the 'Plus' version. I thought it did when I ordered – the advertising suggested it did.

To other potential MOP users I would say: take advice from one who spent his dosh then waited, waited some more, waited a bit longer then got an unusable product – read 8000 Plus and wait for the all clear.

Barry Watts
Hendon

Morning after

I received The Mini Office upgrade this morning, but I am far from pleased. After waiting nearly four months, finding that the package does not work is not a pleasant experience.

S J Harris
Manchester

Cut short

I enclose my musings after one day of struggling with Mini Office Professional Plus. Please feel free to edit this and publish it as a letter, or use it as source material for an article on this supposedly improved package. *(cont. page 203).*

Andy Williamson
Gateshead
Tyne & Wear

***8000 PLUS** Andy's letter ran to several pages of detailed complaint, as did many others – not to mention the phone calls. Mini Office was recalled within days of release and the whole episode represents a dreadful debacle for Database.*

Since, ultimately, it is the potential customers who are losing out, deprived of an eagerly awaited product, there is nothing to crow about in the present situation. However, even a few minutes of testing would have demonstrated that much was wrong with the product. Who on Earth authorised its distribution without any testing? We should be told.

In re Lasahold

Further to my two letters, of May 18th and 19th *(concerning the Amstrad Professional Users Club – Ed.)*, I now learn that the Oxfordshire Consumer Advisory department has spoken to its counterpart in Sunderland, where the so-called 'club' operates, and that I am not the first person to note that what is certainly an unethical, and probably an illegal, situation exists. Indeed the matter has been referred to the Trading Standards Office there. It will not surprise me to learn that either the 'club' or Amstrad or both could be prosecuted.

I suggest that you would be strongly advised to disassociate yourself from the matter by printing a note explaining that the feature on Page 12 of your May issue could be misleading, because the organisation is neither Official nor Amstrad, and that the Amstrad Logo which they display, though apparently used with Amstrad's permission, does not in fact mean that they are a part of that Company.

I should be interested to know if there is any relationship between yourselves and Amstrad plc. I am virtually sure that there is not. A note in your magazine to that effect would be desirable, but I repeat that I do not

feel myself to have been tricked, as has been the case with the 'club'.

Dr M A T Rogers
Oxford

8000 PLUS Future Publishing, who own 8000 Plus (and six other computer magazines dealing with most mainstream computers) are an entirely independent publishing company having no connection with Amstrad, Commodore, Atari, Apple, IBM nor any other computer manufacturer its magazines write about.

We've had several letters concerning this 'club' since we mentioned it in the Clubs article (Issue 32), none of which are complimentary. Lazahold do not appear to have their hearts in the enterprise.

Handle with care

I have just received Locofile the only thing is, I dare not open the package! I thought you and your readers may be interested in the loose note provided with my new Locofile. It reads thus:
"IMPORTANT PLEASE READ CAREFULLY BEFORE OPENING THIS PACKAGE.
.....This package is only sold on the condition that you... agree to the following...:
1: ... The opening of this package will be deemed acceptance of the goods as ordered.
And most interestingly,
"6: Disclaimer. This package is supplied 'as is' without warranty of any kind, expressed or implied." We all know that in law this is not permissible, that anyone can return goods if they are faulty, or not suitable for the purposes for which they were sold etc. Your comments would be appreciated.

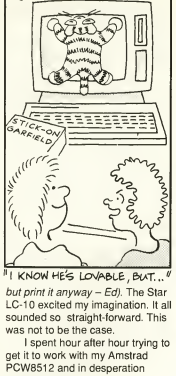
N P Fish
Bristol

8000 PLUS The first point seems reasonable, after all, you could send off for software, copy it, and send it back ad nauseum. Opening it is proof of acceptance (as ordered, if it weren't LocoFile you'd send it back anyway). Number six is lawyer speak for 'don't blame us if you use this software to run your business and go broke', and as you've pointed out, doesn't affect your statutory rights to a working product (but not to a bug free product - there is no way of 'proving' that software is bug free).

My favourite disclaimer came with a shareware product whose name I've forgotten. Short and to the point it said "We accept no responsibility for anything".

Blaming problems

Your June issue contained a splendid article by Steve Patient on the merits and demerits of 6 different printers *(I blush modestly but print it anyway – Ed)*. The Star LC-10 excited my imagination. It all sounded so straight-forward. This was not to be the case.



I spent hour after hour trying to get it to work with my Amstrad PCW8512 and in desperation asked a computer whizz-kid neighbour to help. He gave up after 10 cups of tea. The printer was hooked up as per instructions, complete with Centronics interface, but the PCW did not want to know. Where have I gone wrong?

Arthur Freeman
Berkhamsted
Herts

8000 PLUS Step by step. First, do the self test on the LC-10; if this works, check that the PCW recognises the interface (it will say SIO/Centronics add-on when the machine starts).

Now run DEVICE.COM with the line: DEVICE LST:=CEN. If you now type [Alt]p each line of text you type in should be echoed to the printer after a [RETURN]. If this doesn't happen then the most likely problem is a bad ribbon cable. Try the printer on another PCW or try another cable to confirm the diagnosis.

Off the job

I feel it only fair to warn your other reader of the perils of becoming a victim of your own success. I work in the depot office of a bus company and decided it was high time we were brought into the twentieth century, I mean, who wants to know how to calculate how many tons of coal were used to fuel the buses 1922 – 1930?

Because of this, last November I went out and bought myself a PCW9512. After the initial learning I went on to redesigning, updating and streamlining all of our office systems. So successful has this been that I am now out of the very job that I set out to make easier. While I'm here, I'd like to ask a question: how do I get my DMP2160 to print all of the characters and symbols that appear on the 9512 screen? I have the FX80_NLQ.PRI, FX80_NLQ.#IB and INSTALL .DRV files on my Start of day disc.

Rod Patient (no relation)
Harlow

8000 PLUS A likely story. Even in Britain you usually get promoted for exemplary dedication to the job, not sacked; who did you upset? And that ridiculous, obviously invented name. It's clearly being used to protect the guilty.

As far as I'm aware the DMP2160 can't produce all the characters you can get on screen – for that you need a 24 pin printer (so that you can download the whole character set to its internal memory).

An old fool?

I hope the staff at 8000 Plus realise what a charming and intelligent Editor they have. I retired early (at 59), have just read your June editorial 'No Fool Like an Old Fool', but my comment is, of course, totally unbiased. PCW purchased as a retirement present to myself, never regretted (brief moments of black despair excluded) even though, early on, I lost an hour's typing by trying to get margins/layout 100% perfect before 'saving'. I did laugh.

Please retain those touches of humour. They ease information into the mind and help keep it there. Surely any subject could be made dull by unrelieved slabs of info?

H Leslie Griffiths
Ashtead
Surrey

8000 PLUS Oddly enough my charm and intelligence remain unacknowledged in the elegant smoked glass spires of Future Towers – I can't understand it. And what's wrong with slabs of information? Many a happy hour have I passed with the collected Intel Microprocessor Application Notes (All right, it's a lie).

Terminal condition

Whilst watching 'Gentlemen and Players' last week I noticed that when 'Bo' Beaufort was in the chairman's palatial office the only computer terminal available was a PCW 8256 with LocoScript running. Whilst this is undoubtedly a wonderful machine I was surprised that Beaufort was able, with only two keystrokes, to obtain an up to the minute share price for a rival company. What I want to know is when can I obtain this remarkable add on (LocoShare?) which can link an unexpanded 8256 to the stock market's computer from within LocoScript 1, without needing an RS232/Centronics interface or a modem.

I really think 8000 Plus is slipping, your readers expect reviews of software of this importance before every Tom, Dick and Miles is using it.

Dr Alun Owen Griffiths
Bradford

8000 PLUS LocoShare (glad to see you got the capital S right) is currently undergoing beta testing at selected pretentious drama series and will not be available until the problem of getting TOPIC data over a PSTN link via the PSS system on a Friday afternoon is sorted out.

REM comment

In the June issue, you were asking for comments about programming languages.

I have been using CBASIC for more than eighteen months so far without difficulty. You may be interested to know that CBASIC was used to compile ULTIMATE QUIZ and ULTIMATE SUMS.

On the subject of operating speed, I have found CBASIC faster than Mallard. Some time ago, the magazine published a test program in an article comparing Pascal, C and Mallard. Out of interest, I compiled the same program using CBASIC; it ran more quickly than any of the times quoted in the article. The confusion stems from the use of real numbers, CBASIC treats real numbers as if a double precision number in Mallard.

On the subject of VDE, (an upgraded version of VDO2) I have found it very easy to use. The program is only 16K, so it doesn't take up too much space on the CBASIC disc. My only difficulty with VDE was the Wordstar commands. I overcame this with SETKEYS.

I would recommend VDE to any reader who needs a good ASCII text editor. If any of your readers would like a copy of VDE together with the setkey file, I would be happy to supply a copy for £6.00.

David Greenhough
37 Falkland Rd
Bradford
Yorks BD10 0JT

8000 PLUS I've always said CBasic was great (or do I mean just C?) and you're right about the numbers. I believe CBasic stores reals in seven bytes (Mallard uses five, I think), so manipulating these extra bytes slows up the system.

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LOCOSCRIPT COMPETITION

This month's competition ensures you'll never have trouble with words again

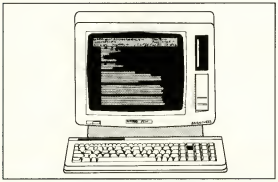
Yes, Locomotive have noticed that some people are so poor that they can't afford to buy software (see Tipoffs, 'Brazen Effrontery', issue 31) so they've decided to give some away, complete with manuals.

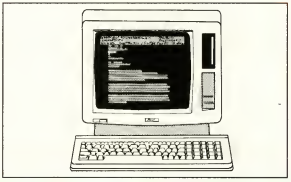
As we all know by now, LocoScript 2 is more than twice as fast as LocoScript 1; it will put more hours in your day and more fun in your hours.

Win this easy-to-enter competition and you can become the proud possessor of the complete LocoScript 2 suite of programs: LocoScript 2, LocoMail, LocoFile, LocoSpell and LocoFont – everthing you want from your PCW without ever leaving the LocoScript environment. Even formatting your discs can be done inside LocoScript when you're running the latest version 2 of the best selling word processor for the PCW range of machines.

No, that isn't all. The four lucky runners-up will all get a copy of LocoFile, the integrated, easy-to-use, pull-down LocoScript database. Not just a database; it can be a diary, an aide-memoire, a note pad and much more. No, you can't afford to miss this competition, so get down to it right now.

The two pictures below are not quite identical despite first impressions to the contrary. Martin Parfitt, our Art Assistant, has introduced five subtle differences. All you have to do is send either the original picture or a photocopy with the five differences ringed in red. Send your entry on a postcard or sealed envelope to LocoScript Competition: 8000 Plus, 4 Queen St, Bath, BA1 1EJ. All entries must be in by the 24th August. ■





This month – next month

Vertical software is still an important market and we haven't finished with it by any means. If you know of any other packages we ought to be looking at then let us know. It could be that some of them are worth showcasing.

More than a word processor, but a music centre? Who would have thought that the not so humble PCW word processor could do so much? This month's MIDI article glimpses even more of its hidden talent. Let's hope that we can show Composers Pen to go with it before too long.

New uses for the PCW continue to come to light. Not all of them involve new software or specialist activities; sometimes just the power of the technology involved suggests a new way of doing something - like the family newsletter on page 39. A simple idea can be as successful as a complex one; all it takes is a fresh look at an everyday activity, so get looking and tell us what you see.

Error messages are an interesting study; in many ways the PCW and CP/M messages are quite good. Although we're not offering any prizes, let's hear your most arcane example of an error message, along with the software and hardware it comes from.

The centre feature on modems was long overdue. With prices coming down weekly and bulletin boards going up all over the place the comms scene has never been livelier. We see bulletin boards becoming an extension to the activities of many formal clubs as well as other similar interest groups and have one or two of the more interesting ones in mind to tell you about in detail. We'll keep you posted.

- **Locomotive - the driving force**
  The company, the men and women behind it and the products they've been responsible for.
- **Ram upgrade**
  It's the big one from Isenstein. You can now have a full megabyte of Ram in your PCW.
- **Micro Design**
  Will this new Desktop Publishing program from Creative Technology oust Stop Press from number one? We put it through its paces.
- **Pascal**
  It's time to take an in-depth view of a few programming languages. First is Pascal; is it still the best choice for a second language?
- **Snail-farming**
  The PCW drops a gear or two and heads off to Wales to lend a hand on a snail-farm.
- **Magazine writing**
  So you want to get some articles into print? It may not be as difficult as you think.
- **Heading off**
  First of a two parter in which we take you to complete mastery of headers and footers in LocoScript 1 and 2

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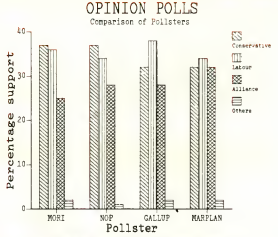
Cracker 2 continues to evolve as a 'live' product under current development by its original author: few if any other full-featured spreadsheets for the PCW can make this claim.



Example plot from a PCW printer

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